

**EFFECTIVENESS**  
**CONSIDERATIONS APPERTAINING TO**  
**INDIVIDUALS, GROUPS, AND ORGANIZATIONS**

**A Thesis Submitted**  
**in Partial Fulfilment of the Requirements**  
**for the Degree of**  
**DOCTOR OF PHILOSOPHY**

**by**  
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**to the**  
**DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES**  
**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
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**IN THE MEMORY OF MY BROTHER (VIKAS) AND GRAND FATHER**

## Statement of Thesis Preparation

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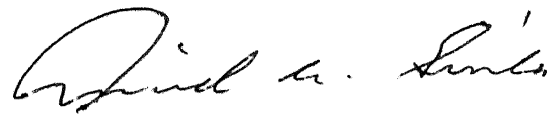
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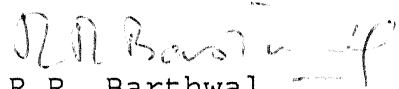
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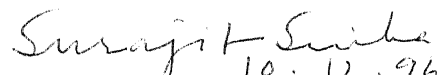
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## List of Abbreviations and Symbols

A	:	Autonomy
AA	:	Acting Ability
Ab	:	Absenteeism
ABV	:	Autocratic Bureaucratic Values
AI	:	Actual Innovation
ANOVA	:	Analysis Of Variance
APO	:	Achievement and Power Orientation
AR	:	Affiliatory Relations
b	:	Regression coefficient with scores in the raw score form
B	:	Bureaucratization
CATG	:	Command And Task Group
CEDS	:	Capacity for Effective Dealing with Self
CFIS	:	Close Feeling with Immediate Supervisor
CFIWS	:	Close Feeling and Initiative With Subordinate
CFTIRR	:	Close Feeling, Task Initiative and Rewarding Relationship
CISSP	:	Congruence between Inner State and Self Presentation
CL	:	Comfortable Living
CMM	:	Conductive Motivation Management
CRG	:	Contribution to and Recognition by the Group
CVEFW	:	Cooperative, Vigorous and Efficient Fellow Worker
df	:	Degree of freedom
DE	:	Dynamic Environment
EDC	:	Espirit de Corps
EI	:	Effort Investment
EP	:	Effectiveness Potential
EPGN	:	Effective Performance Group Norms
EPMEJ	:	Expectation of Promotion with More Effort on Job
ERS	:	Equitable Reward System
EWC	:	Excellent Work Condition
$\bar{E}$	:	Coefficient resulting from the computation of analysis of variance
F	:	Formalization
Fb	:	Feedback
FUWU	:	Facilitating Climate of Work Unit
FFP	:	Fear of Failure based Procastination
FIFPG	:	Formal, Interest, Friendship and Primary Group
FO	:	Friendship Opportunity
FRAN	:	Fulfillment of Recognition and Autonomy Needs
FSAN	:	Fulfillment of Security and Altruistic Needs
GGA	:	Group Goal Accomplishment
GGC	:	Group Growth Concern
GL	:	Group Learning
GMGOA	:	Group's Motivation for Goal Oriented Activity



GO	:	Growth Opportunity
GPO	:	Group's Participative Orientation
GR	:	Group Recognition
GS	:	Group Size
HAC	:	Harmonious And Contentedness
HPG	:	High Performance Goals
HPI	:	Hardwork, Punctuality and high Initiative
HQPM	:	(Presence of) Highly Qualified Persuasive Member
HSSR	:	Having a Sense of Shame and Reciprocation
HW	:	Hours of Work
HWEG	:	Hard Work Ethic of the Group
ICF	:	Impaired Cognitive Function
ICTOR	:	Informal Close but Task Oriented Relations
IEI	:	Inadequate Effort Investment
IFAFP	:	Intimate Friendship And Filial Piety
ILOC	:	Internal Locus Of Control
IM	:	Impression Management
IPRFLA	:	Informal Personal Relations Facilitative of Leisure Activities
IPRFWA	:	Informal Personal Relations Facilitative of Work Activities
IS	:	Income and Status
ITWG	:	Interpersonal Trust in Work Group
JA	:	Job Autonomy
JEGL	:	Job Enriched at Group Level
JKU	:	Job Knowledge and Understanding
JPP	:	Job Prestige and Patriotism
KAP	:	Kindness And Patience
LHS	:	Left Hand Set
LIA	:	Lack of Initiative and Assertion
LOV	:	Lack Of Variety
LPPORT	:	Lack of Power and Prestige Orientation, and Risk Taking
LV	:	Learning as a Value
MA	:	Motivational and Affective
MADR	:	Monitor And Disseminator Roles
MRA	:	Multiple Regression Analysis
Ms	:	Mean square
MS	:	Management Support
n ach	:	Need for Achievement
n power	:	Need for Power
NAI	:	Need for Affection and Including
NR	:	Negative Reinforcement
NRCTE	:	Non Rapidly Changing Technology and Economy
NWN	:	Non Work Norms
OC	:	Organizational Commitment
OPSA	:	Own People Success Archytype
OS	:	Omnibus Success

OSWI	:	(Professional) Opportunity Seeking and high Work Involvement
P	:	Probability level
PASCC	:	Premium on Adaptability to Suppliers, Customers and Competitors
PDCDS	:	Potentially Decreased Capacity to Deal with Self
PI	:	Potential Innovation
PIM	:	Premium on Incorporation of the Milieu
PN	:	Participative Norm
PNS	:	Physiological Need Satisfaction
PP	:	Perfection based Procastination
PRE	:	Performance Reward Expectancy
PERSONV	:	Participatively Structured Organization Norms and Values
QA	:	Quality Assurance
QC	:	Quality Concern
QSBFW	:	Quarrelsome, Selfish and Belligerent Fellow Worker
r	:	Product moment correlation coefficient
rho	:	Rank - order correlation coefficient
$\bar{r}_{ij}$ (est)	:	An estimate of Cronbach's (1951) alpha coefficient considered to be unaffected by length of test, or number of items in the scale
R	:	Reflective
R	:	Multiple correlation coefficient
Rc	:	Canonical correlation coefficient
RCPCP	:	Rapidly Changing Price, Competitors and Policies
Rdx	:	Redundancy coefficient
RE	:	Role Efficacy
REENFR	:	Role Enactment of Entrepreneur, Negotiator, Figurehead, and Resource allocator
RHS	:	Right Hand Set
S	:	Stratification
Sn	:	Seniority
SA	:	Self Awareness
SCP	:	Self Consciousness in Public
SDF	:	Standard Discriminant Function
SF	:	Social Facilitation
SF	:	Second order Factor
SF1	:	Uncontrollability of Events, Incongruence between Inner State and Self Presentation
SF2	:	Self Consciousness in Public, Positive Group Feeling, Self Awareness
SF3	:	Autonomy, Task Identity, Task Significance
SF4	:	Contribution to and Recognition by the Group, Learning as a Value, Valuing Independence and Intellect, Effort Investment
SF5	:	Performance Reward Expectancy, Expectation of Promotion with More Effort on Job
SF6	:	Quality Concern, Management Support, Transformational Leadership Style, Group Growth Concern

SF7	:	Non Rapidly Changing Technology and Economy, Rapidly Changing Price, Competitors and Policies
SF8	:	Conducive Motivation Management, Facilitating Climate of Work Unit
SF9	:	Autocratic, Bureaucratic Values, Non Work Norms
SF10	:	Fulfillment of Recognition and Autonomy Needs, Fulfillment of Security and Altruistic Needs
SF11	:	(Satisfaction with) Excellent Work Condition, (Satisfaction with) Omnibus Success
SF12	:	Role Efficacy, Effective Performance Group Norms, Structural Performance Group Norms
SF13	:	Formalization, Bureaucratization
SF14	:	Group's Participative Orientation, Group's Motivation for Goal Oriented Activity, High Performance Goals
SF15	:	Close Feeling and Initiative With Subordinate, Close feeling with Immediate Supervisor
SF16	:	Monitor and Disseminator Roles, Role Enactment of Entrepreneur, Negotiator, Figurehead, and Resource allocator
SF17	:	Group Learning, Job Enriched at Group Level, Group's Recognition Group Goal Accomplishment
SF18	:	Team Building, Actual Innovation, Premium on Incorporation of Milieu, Premium on Adaptability to Suppliers, Customers and Competitors, Espirit de Corps
SLOC	:	Synergic (or mixed) Locus Of Control
SOC	:	Span Of Control
SS	:	Sum of Squares
Std. error	:	Standard error
TB	:	Team Building
TCWC	:	Technologically Conducive Work Condition
TI	:	Task Identity
TIOAT	:	Task Investment and Outcome Assurance in Tasks
TLS	:	Transformational Leadership Style
TS	:	Task Significance
UE	:	Uncontrollability of Events
UMT	:	Unimportant or Meaningless Task
VCWP	:	Valuing Comfortable Work Place
VII	:	Valuing Independence and Intellect
VSRW	:	Valuing Social Relations and Activity at Work
VWP	:	Valuing Work Perfection
WE	:	Work Ethic
WP	:	Work Pressure
WRA	:	Willingness for high Responsibility and Achievement
$\chi^2$	:	chi - square

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## Synopsis

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The study primarily was about the construct of effectiveness. The construct of effectiveness was operationalized in terms of Individual, work group, and organizational effectiveness in the context of Indian work organizations.

Effectiveness was but one of the variables in the study. Several other variables were included. These were categorized into seven major categories, (a) Individual characteristics variables, (b) contingency variables, at individual level, (c) Individual effectiveness, (d) Group characteristics variables, (e) Contingency variables at group level, (f) Group effectiveness, and (g) Organizational effectiveness. The specific variables were the following. Individual effectiveness, group effectiveness, organizational effectiveness, individual's biographical information, learned helplessness, locus of control, maturity, need, procrastination, self awareness, self consciousness, self limiting behavior, self monitoring, value, group norms, group size, nature of group, structural aspects of group, task characteristics, culture and climate characteristics and management practices variables. Besides, two categorical variables namely, industrial categorization and ownership were also included.

It was conjectured that while effectiveness in itself, may not be a very substantive variable, some other variables may be equally significant with in the totality of organizational dynamics. Hence an attempt was made to explore and understand the organizational dynamics in terms of other variables as well. Empirical dimensions of the variables were delineated, and some of the probable "antecedents" and "consequences" of dimensions of the constructs were explored.

In short, purpose of the study was to conceptualize, operationalize, and to make explorations with the construct of individual, work group, and organizational effectiveness; and to understand the relationships of these with a number of other organizationally relevant constructs. The study made an attempt toward the understanding of organizational dynamics in terms of variables used in the study several of which, the researcher believes, were being explored for the first time in a study like this one within organizational framework.

The responses were to be obtained from individuals. Therefore, some of the variables that should "ideally" have been operationalized as "macro" variables, were transliterated as individual level variables due to the practical difficulties in obtaining real "macro" level data.

Although, the nature of work was exploratory, several research issues were raised, and could be answered to a reasonable extent. Mainly (a) the underlying dimensions of the variables were uncovered, (b) the dimensions of the variables were related to one another following a conceptual scheme, and (c) the patterns of relationships of the variables with organization and individual and group level were explored.

The sample size consisted of 250 middle level managers from seven public and six private sector work organizations. These organizations were located in Uttar Pradesh, Haryana, and Andhra Pradesh states of India. The organizations covered textile, chemical and mechanical engineering industries. The data were collected through structured interview schedules. The data analysis techniques included correlations, factor analysis, canonical correlation, discriminant analysis, multiple regression analysis, univariate analysis of variance, and Multivariate analysis of variance.

The results suggested that the construct of individual and work group effectiveness could be important in organizational dynamics. Group effectiveness appeared to make significant contributions toward organizational effectiveness compared to individual. The dimensions of individual and work group effectiveness seemed to have significant and meaningful relationships with other variables in the study reflecting organizational dynamics. Besides, a number of other variables could be identified that would have important ramifications at the individual, and group level, and presumably also at the organizational level. In addition to process variables, structural variables like ownership and industrial categorization also emerged as important ones and their effects" were explored. Some of the implications of the study could be (a) that there is a need to realize the importance of understanding the construct of effectiveness not only as a whole but in terms of three separate, though mutually related, subcategories, namely individual, group, and organizational effectiveness, (b) since the study could specify the nature of precise relationships among the dimensions of the variables in a rather comprehensive manner, the knowledge of these relationships may be utilized, by the dominant coalition of the

organizations comparable to those in study, in order to enhance quality of decisions regarding personnel management or may be regarding the totality of organizational dynamics itself; and (c) the future academic endeavors might make use of the present study as a stepping stone for further exploratory and confirmatory research toward a more complete understanding of organizational dynamics.

## Chapter - 1

### INTRODUCTION

The present work is primarily concerned with the construct of effectiveness. The term effectiveness has been used rather widely in the literature by various theorists, researchers and real life practitioners in different contexts. A number of other variables have also been found closely associated with the construct of effectiveness making for important insights into the organizational dynamics. In view of this realization, the work ventures to deal not only with the construct of effectiveness but also with several other variables which may have relevance toward a better understanding of the construct of effectiveness in some manner, particularly in the context of organizational dynamics.

The study focuses upon the effectiveness concern of the managers in work organizational setting. It is known that one of the key occupational groups in any progressive society could be the managers. Additionally, effective direction of human efforts both in public and private sectors would be essential for the wise and efficient utilization of human and material resources. This need would be realized if one can take into account the effectiveness considerations at all the three levels of organizational existence and dynamics, namely the micro, meso and macro levels in an organizational setting, as also of the various other relevant factors that contribute to the dynamics of effectiveness.

Looking into the existing literature it appears that effectiveness, more or less, has been linked with materialistic rewards or output. Especially at macro level, an organization is considered effective if it is profit making. At micro level too individual effectiveness has been equated with monetarily reward, success, promotions

etc. Hence, it is apparent that the yardstick for measuring effectiveness has generally been external. Though the external yardsticks may be relevant for measuring effectiveness, they may not be the sole criteria of judging effectiveness.

Complying to some external yardstick might imply the incompleteness in the self. However, people with stunted characters who have not achieved a level of integration, a sense of being comfortable in their own skins, are going to take their unfinished selves with them to the job (collins, 1983, p. 1). Such unintegrated state of people may prove undesirable both for the individuals themselves as well as for the organization, they belong to. In judging oneself from others' yardstick, one may alienate others and stay divided himself or herself. Considering this, there may be a need to take a departure from the above mentioned "externally" oriented views and include internal criteria of effectiveness as a valid ingredient of effectiveness at micro, meso, and macro levels in organizations.

The internal criteria of effectiveness may imply that individuals as well as organizations should be able to define their own criteria of effectiveness and effectiveness should also be evaluated against those criteria of effectiveness, not necessarily against conventional criteria of effectiveness. With this view in mind, the present work aims at exploring the construct of effectiveness along with other variables of organizational relevance. Variables from the domains of person's characteristics, group characteristics, task characteristics, climate and culture, management practices, and organizational support would also be included in the framework of the study with special reference to effectiveness what would be designated as the micro level (individual effectiveness), meso level (group effectiveness), and macro level (organizational effectiveness). The description of variables constituting effectiveness at all the three levels would be expatiated with

their theoretical backgrounds and empirical work available in the area of organizational behavior and social psychology. After description of thrust variable (i.e., effectiveness), other variables related to thrust variable would be described following a similar pattern. It may be noted at this juncture that a couple of criterion were adhered to in order that a variable be entered in the conceptual framework of the study. More specifically, the criteria included the following, namely (a) confusion, (b) novelty, and (c) relevance. A little elaboration might be in order.

The criterion of confusion refers to the state of affairs arising out of mostly inconclusive results piling up in the available literature. The variable which have yielded conflicting results in the available literature would be treated as confusing variables, and would be included in the study in order that their place be affixed in relation to the thrust variable under the situational structure afforded by the framework under which the present study was carried out.

The next category of the variables that would be included in the study would have the strength of the criterion of the novelty. Novelty, for the present purposes would refer to the variables which have drawn little or no attention in the context particularly of effectiveness.

Lastly, the variables which on the basis of available literature, or even on some intuitive consideration; might appear to be of "relevance" would be included in the framework of the study if not for anything else, then just for the sake of giving a relatively "complete look" to the present endeavor.

In order to keep the first things first, the variable of the effectiveness would be taken up first.

## Effectiveness: An Overview

Effectiveness is a construct which has fascinated the scientists and practitioners of management alike for quite some time. The concept is repeatedly encountered in the literature and despite years of intensified research and theorization, the answer to the question of what actually is involved in or constitutes the concept of effectiveness, is mostly inadequate (Steers, 1975). The construct of effectiveness still seems to be in early stages of development in terms of clarity of conceptualization. Since there is a rather long history attached to the efforts in dealing with the construct of effectiveness, it may be redundant to make a chronicle of each and every aspect of evolution of the concept at this place. That would require a literature survey much more involved than warranted by the purpose of the present endeavor. However, it may serve a purpose to sample a few representative viewpoints on defining the concept. As a representation of the generalists' viewpoint, let us consider some of the definitions found in currently popular dictionaries.

Websters 9th New Collegiate Dictionary (1987) has stated that the word Effectiveness stresses the actual production of, or the power to produce an effect. Oxford Advanced Learner's Dictionary of Current English (1989) says that to be effective means having an effect and to be able to bring the result intended. The Collins Thesaurus (1984) has mentioned many synonyms for effectiveness such as capability, cogency, effect, efficacy, efficiency, force, influence, potency, power, strength, success, vigor. In some other dictionaries too, effectiveness is defined in terms that would come closer to one of the above mentioned dictionaries. It seems that "having an effect or power to produce an effect" has been emphasized while



defining the concept of effectiveness in most of the sources catering to the interests of the populace.

Having taken a look at some of the generalists' perspectives, let us move on to some relatively more technical and academic perspectives on the definition of effectiveness. For the sake of clarity of conceptualization, it may be noted that the long standing concern toward the construct has resulted not only in a plethora of perspectives on the concept of effectiveness in general, but the concern has also led the scholars to deal with the construct from more than one reference anchor. That is, the scholars have talked about effectiveness in general, as also about individual or personal effectiveness, interpersonal effectiveness, group effectiveness, organizational effectiveness, inter organizational effectiveness, and effectiveness of even more macro variety. It may be reiterated that the interest of the present research endeavor lies in three levels of effectiveness in the main, namely (a) individual effectiveness, (b) group effectiveness, and (c) organizational effectiveness. In the following section, first the general concept of effectiveness would be looked at and then the three levels of effectiveness that have been just mentioned, would be dealt with one by one.

Effectiveness sometimes is used as a synonym for efficiency, but these two have come to be used as representing two mutually different concepts, particularly in the recent literature. Drucker (1973) notes that effectiveness is the foundation of success whereas efficiency is the minimum condition for survival after success. Efficiency is concerned with doing things right. Effectiveness is doing the right things. The question of effectiveness is concerned with "performance", by which is meant the "execution of an act". We think of a performance in causal terms when discussing our reaction to a sports event, a concert, a play or an automobile and in these contexts,

we make judgments about those performances. Managers in organizations, by the nature of their jobs, are concerned with performance. Indeed, one can readily appreciate that the process of planning, organizing and controlling is itself an embodiment of the concept of performance. Thus effectiveness can also be viewed as the judgment that managers make when engaging in the controlling function. In the words of Robbins (1993), effectiveness can be defined in terms of 'achievement of goals'. Middlemist and Hitt (1981) have defined effectiveness as having successful control over the complete aspects of one's life (within and outside the organization) and a well developed sense of satisfaction with what one has accomplished in life.

The concept of effectiveness is very wide. In the area of organizational behavior, many views have been suggested in the literature to size up the problem of effectiveness. Effectiveness can be looked at from several perspectives and at various levels. As mentioned earlier the present work focuses on individual, group, and organizational level of effectiveness. The description of individual effectiveness is as follows.

### **Personal/Individual Effectiveness**

What makes a person effective, or who is an effective person? One may get answers to such questions by knowing what the person is expected to do, or what goals an individual has in his/her life to achieve? If an individual does his/her job effectively and/or attains the goals, he/she had set for himself/herself, he/she may be considered effective.

More precisely, one may say that, in our culture, individuals tend to develop personalities, attitudes and behaviors along certain dimensions. Individuals who fully experience such development tend to have successful control over their own behavior

and develop a sense of integrity and self worth. These are effective persons with respect to total aspects of their behavior (Middlemist & Hitt, 1981, pp. 161-162). Individual effectiveness can also be defined as having successful control over the complete aspects of one's life (within and outside the organization), and a well developed sense of satisfaction with what one has accomplished in life (Middlemist & Hitt, 1981). Personal effectiveness may be defined in various ways, additionally the effectiveness considerations could be examined with regard to work and with regard to things other than work itself. Personal effectiveness (in problem solving perspective) refers to an ability to solve four of the systems problems. They are (a) adaptation, (b) goal attainment, (c) integration, and (d) latency or tension management (Sutton & Ford, 1982). Since individuals within organizational domain, particularly at middle (and above) level roles usually perform what may be called the executive function; individual effectiveness has received treatment in form of the executive effectiveness also. For instance Bursk (1955) in his writings has used the term executive effectiveness. He suggests that executive effectiveness includes more than the achievement of a profitable record, though it is a primary obligation. It is more than individual brilliance and personal ability to perceive and solve problems. The good executive is an administrator in the broadest sense and an administrator is effective only when the purpose of a business organization and the essential satisfaction of its individual members are being achieved. Executive effectiveness is in part, the ability to strike continual balances among responsibilities to oneself, one's company, associates, industry and community (Bursk, 1955). It has been suggested that the manager, who perceives that his roles offer an opportunity to be creative, to take initiative and be proactive, to apply his capabilities, to learn new things, to contribute to the development of others, to influence others; that his role is central in

organization and is linked with other roles, is likely to be more effective (Rao, 1985, p 20). To be effective is the job of executive. The executive is expected to get the right things done and this is simply saying that he is expected to be effective (Drucker, 1967, p. 1). Even then we find that men of high effectiveness are conspicuous by their absence. Executive might be highly intelligent and knowledgeable but their imagination is far from rare. There seems to be little correlation between a man's effectiveness and his intelligence, his knowledge and his imagination. Such people are often ineffectual because they fail to realize that insights become effectiveness only through hard systematic work. Hence, it may be said that intelligence, imagination and knowledge are essential inputs which set limits to what can be attained, but only effectiveness converts them into results.

This seems to suggest that individual's effectiveness is a key component in making an individual successful in all aspects of life; including the organizational life. That is why we need effective executives. Apparently within a company, managerial competence is important, particularly at the level where the shortage of top flight ability is most keenly felt. However, little attention seems to have been paid to managerial effectiveness in comparison to some other aspects of organizational dynamics.

According to Drucker (1967), the reason for this neglect is that effectiveness is the specific technology of the knowledge workers within an organization. Until very recently, there was no more than a handful of these around. Earlier organizations were predominated by the manual workers. A few people of high effectiveness were needed; those at the top who gave orders that others carried out. They were so small a fraction of the total work population that we could, rightly or wrongly, take their effectiveness for granted. Until recent times, it was workers' efficiency which posed

major problem, knowledge workers were not dominant. Their effectiveness or lack of it concerned only themselves and affected only themselves. Today, however, knowledge workers are the central reality of an organization. Increasingly, the majority of people who have been schooled to use knowledge, theory and concept rather than physical force or manual skill; work in an organization and are effective in only so far as they can make a contribution to the organization. Now effectiveness can no longer be taken for granted, now it can no longer be neglected (Drucker, 1967, p.5).

The imposing system of tests and measurements developed for manual work is not applicable to knowledge work. Working on right thing is what make knowledge work effective. The knowledge worker cannot be supervised closely or in detail. He can only be helped but then he must direct himself toward performance and contribution, that is toward effectiveness.

In the view of Katz (1974), three basic skills are required for effective dealing. He says that the three basic skills needed by all managers are technical, human and conceptual. The relative degree and mixture of the skills needed by a particular manager will depend on the level of management, types of responsibility assigned, and the particular role that manager is playing. And this skill implies an ability that can be developed, is related to performance. Milton (1981), has suggested that concern with individual effectiveness begins with recruitment and selection, i.e., to find the right person for the right job. But there is much more than the selection of right person for the right job to reach effectiveness. Rao (1985) contended that self efficacy or personal efficacy is one of the important factors that contribute to the managerial effectiveness. Self efficacy is found to be strongly related to past performance (Bandura, 1982). According to various models (e.g. Cummings & Schwab, 1973; Porter & Lawler, 1968; Vroom, 1964), performance in organizational settings is a

function of at least three variables. They are motivation level, role perceptions, and persistence of behavior. Effective performance has been defined as the attainment of specific results or outcomes by performing the job, while maintaining the congruence with the policies, procedures, and conditions of the organizational environment (Boyatzis, 1982). A model of individual effectiveness (Campbell et. al., 1970) is presented in Figure 1.

In this figure, it can be seen that individual's characteristics interacts with the demands of the job. Job Performance is also influenced by training and development activities, additional performance may be influenced by reward structure. The arrows indicate leadership and maintenance activities (for instance, aspects related to mechanical and safety programs) influencing to some extent the employees performance or effectiveness.

At least one of the perspectives in behavioral sciences would hold that since an organization is made up of individuals, the characteristics of the individuals might constitute a substantial portion of the macro level organizational characteristics. Provided that this logic is acceptable, the personal effectiveness of role incumbents should get reflected in organizational effectiveness as well. Even if it does not, the effectiveness of the individuals by itself should be a matter of concern; because performing well is a prerequisite to any subsequent positive organizational dynamics. Hence it may be posited that individual effectiveness is an important aspect to reach organizational effectiveness, but unless groups are considered too, the dynamics of organizational effectiveness may be difficult to understand and attain.

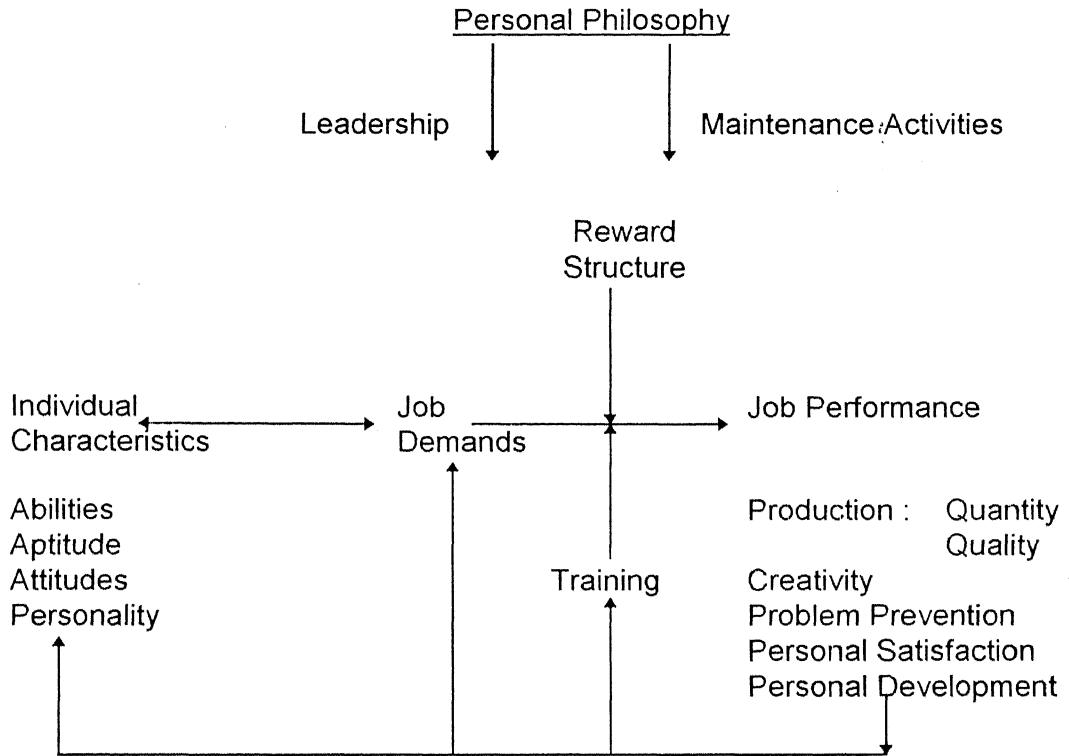


Figure 1. A model of individual effectiveness by Campbell et.al. (1970).

## Groups

Groups are important to study. The social scientists are interested in groups because they epitomize social situations and social behavior. Clinical psychologist must know about groups because so many personal problems are rooted in the individual's interactions with others. To know about group is important also because many of the goals can be achieved only through group action.

There is probably no facet of organizational life about which we are more ambivalent than working in groups. Most of us believe that working together in groups can sometimes result in synergy; i.e., the product of the group will be better than any one individual group member could have produced alone. Groups are composed of individuals, and group products are the consequence of individual contributions; but it is not clear as to what extent an individual's contributions are influenced by others. One line of thinking could be that each individual group member behaves in group as he would alone, i.e., that others in the group have no effect upon his contributions to the group product. The evidences indicate however, that each members contribution is determined in part by others. So the competing hypothesis would be that individuals behavior are affected by the group effects.

This hypothesis is supported by various studies of group effects on human performance (for e.g. Triplett, 1897; Allport, 1924; Tolman, 1964; Seashore, 1954; Milliken & Vollrath, 1991; Driskell & Edwardo, 1992; Bass, 1980; Halkman, 1983). Raven and Rubin (1976) have also suggested that groups may socially facilitate or inhibit the individuals performance. Raven and Rubin (1976) looked for factors that may affect the level of performance of an individual in a group. Facilitating factors would be the following, (a) increased stimulation from the sight and sound of others,



who are performing similar tasks; (b) increased motivational arousal from presence of others, leading to higher level of dominant response, and (c) increased motivation due to competition with other person.

Similarly three factors that may decrease an individual's level of performance are, (a) responses from others that are distracting and thus making difficult for self evaluation; (b) increased motivational arousal where task has not been mastered, and (c) evaluation apprehension which may increase anxiety and thus inhibit performance.

The importance of groups has also been brought out in the framework of Intergroup Theory (Alderfer, 1983; Brown, 1983; Smith, 1983). The rationale behind the theory is that interactions between people of any level of analysis (individuals, groups, organizations etc.) represent the effects of group membership. In its most reductionist form this theory views individual as a composite of group memberships (sex, race, management, generation and so on) and in its most expanded form it emphasizes the embedded nature of groups (unit in an organization, in an industry, in a market) and thus behavior is conceptualized to be a product of multilevel embeddedness.

The management can derive maximum benefit out of its human resources if the work groups are marked by a high degree of group loyalty, effective skills of interaction and high performance goals (Likert 1961). A work group may be defined in terms of a place or occasion where two or more people interact with each other, sharing similar interests and working together to accomplish common goals. Research findings show for example, that the greater the attraction and loyalty to the group, the more the individual is motivated to accept the goals and decisions of the group, to seek to influence the goals and decisions of the group, to communicate fully to the members of the group, to welcome communication and influence attempts from the other

members, to behave so as to help implement the goals and decisions that are seen as most important to the group; and to behave in ways calculated to receive support and favorable recognition from members of the group and specially from those who the individual feels are the more powerful and higher status members (Cartwright & Zander, 1960).

An organization may be called successful when besides maximizing its profit, it makes the greatest use of human capacity consisting of highly effective work groups, linked together in an overlapping pattern by other similarly effective groups. The highly effective work group is, consequently an important component of an organization. Likert (1961) gave considerable attention to groups in organizations, he had a view that effective work group is one that achieve high levels of task performance and human resource maintenance over time.

McGregor in his book, *The human side of enterprise* (1960, pp. 235-240) distinguishes between effective and less effective groups. "The 'good' managerial team is one where the atmosphere is relaxed with people listening to each other without tension. People participate and try to reach an agreement. When disagreements cannot be resolved, the group attempts to live with them, and criticism, while frequent, is constructive but not personal. Evaluation of group performance is constant. On the other hand, a less effective group has little idea of group task objectives. A few people dominate, and their contributions are often not to the point. Disagreements are either suppressed out of fear of conflict, or actual warfare emerges. Meetings produce tension but little of value in reaching any clear goal".

A group's ability to be effective depends particularly upon how well it transforms the resource inputs into group's outputs. The inputs would include the organizational settings, nature of the task, individual attributes and general member characteristics.

The group process would include things like norms and cohesion, interaction patterns, decision making and task maintenance activities. These may be related both to required behaviors in the formal systems and the emergent behaviors in the informal systems. The outputs may include the task performance and human resource maintenance. Cartwright and Zander (1960) suggested that a group is more effective if it specializes the tasks of its member. Bass (1980) suggested that interaction processes within a group are the determinant of effectiveness. Unfortunately, actual interaction processes in groups have not been a focus of contemporary research, so little is known about the micro facets of interaction that are critical for effectiveness (Hackman, 1983). Still there are some evidences (Bass, 1983; Hackman, 1983; Hughes et al, 1983; Driskell & Edwards, 1992) that support a similar conclusion.

There are numerous examples in the research literature which point out the substantial effects of groups. Probably the most widely known study of the impact of groups in organization settings was performed at Hawthorne plant of the Western Electric Company in the late 1920s (Roethlisberger & Dickson, 1939; cited in Homans, 1950). Though originally the research was intended to assess the impact of working conditions on productivity but findings indicated development of various other social and psychological conditions apart from problem studied. A concept of group identity emerged on the part of workers who participated in research. In another study, Coch and French (1948) found that workers were much more accepting of a change in work practices when they had participated in the planning of the changes. The Tavistock studies of coal mining (Trist & Bamforth, 1951) also show how important group membership can be to individual organizational members. As groups are important to an organization, it is also essential that groups should be made effective to reach organizational goals. Arnold and Feldman (1986) have indicated

that in order to enhance group effectiveness, group leaders need to assign specific duties to individual group members, and reward them for their efforts. He has also given importance to group cohesiveness, functional and productive group norms, interpersonal relations, tolerance of deviance without ignoring the offenders completely to increase group effectiveness.

It is rather odd that we recognize deficiencies in both knowledge and skill in many areas, and yet many people assume that we all know how to be effective team members, or at least should do, without any training or development in the subject. (Robson & Beary, 1995, pp. 21-22) Belbin (1981), in his study of effective and ineffective groups identified different team roles and found that the most creative people are highly imaginative and experimental, intelligent and assertive, but that a group made of such people, far from being ideal, tends to be ineffective. In an effective group the more feasible ideas are 'company workers', whose main skills are in achieving targets and getting results through people.

An effective group also needs an intelligent, shrewd and serious minded person to judge the ideas generated by the 'plant', a role called the 'monitor/evaluator'. Other roles found in effective groups include that of the 'completer/ finisher' who is primarily concerned with high standards and the completion of schedules. Next there is the resource investigator, who is good at identifying and contacting external resources of help. The sixth role is that of the team worker who helps to diffuse difficult situations that occur in group. Then there is the role of chair person who is concerned for objectives, strategies, policies and organization, and is good at delegating. The final role is that of 'shaper', the person who pressurizes, challenges and finds a way round "difficulties" (Robson & Beary, 1995, pp.57- 58).

Till now the basic concepts of and assumptions about the work group effectiveness have been discussed. The literature on group is rather vast and we need to place some boundaries on our enquiry but it is essential to present a few models of group effectiveness, which attempt to develop new theoretical perspectives in this area. The work of Cummings (1981), Hackman (1976), Kolodny and Kiggundu (1980), and Gladstein (1984) are a few examples for such attempts.

Kolodny and Kiggundu (1980) developed a model (Figure 2) out of the social-technical tradition that focuses on the interaction between leadership skills, technical skills, and group interaction.

Guzzo (1984) focuses on three determinants of group effectiveness, namely task interdependence, outcomes interdependence or the contingency between rewards and group performance, and potency of the collective belief that group can be effective (Figure 3). The work by Gladstein (1984) must be incorporated in this status report because it represents one of the first attempts to pose and to test the comprehensive model of work group effectiveness. The general model is divided into inputs, process and outputs. Hackman's work (1983) has also been a major influence in shaping current thinking about work groups.

A different type of model of work group effectiveness (Goodman, 1986) has been proposed, which is derived from an economic - technological perspective rather than psychological perspective underlying the other models. It focuses on group performance as a function of the mix between labor and technological variables. Although there are other models of work group effectiveness, the above representations provide a fairly broad picture of current thinking about work group effectiveness

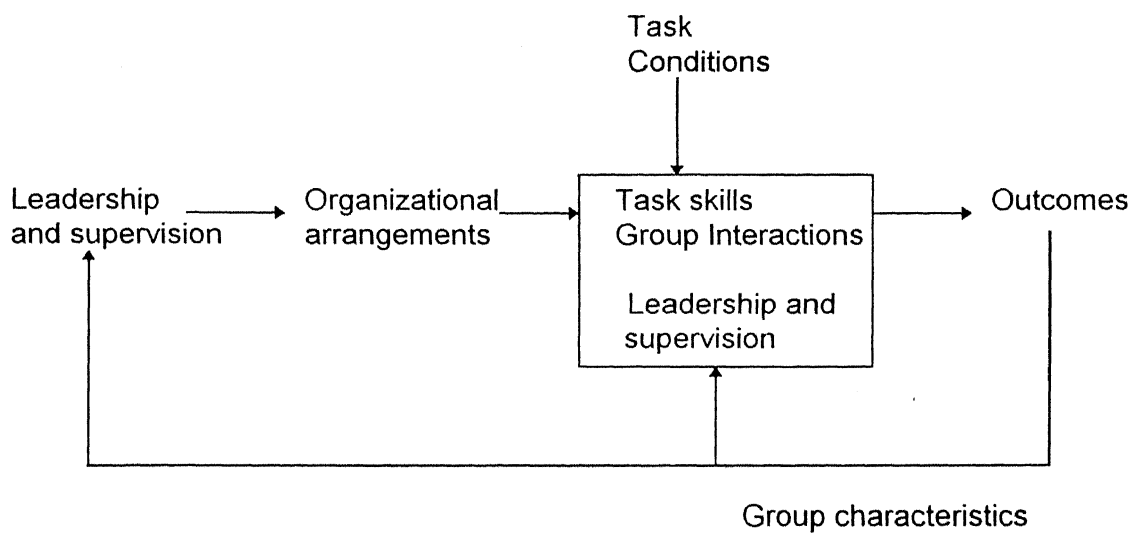


Figure 2. A model of group effectiveness by Kolodny and Kiggundu (1980).

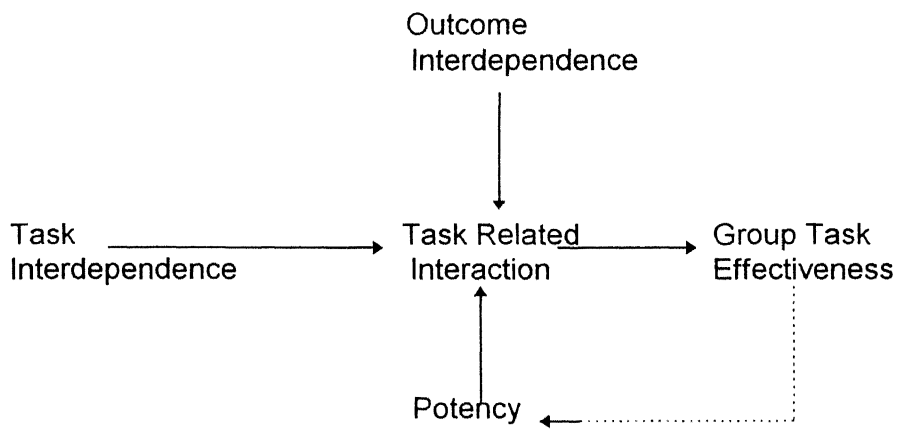


Figure 3. A model of group effectiveness by Guzzo (1984).

The third level of effectiveness incorporated in the study is organizational effectiveness . The description follows.

### **Organizational Effectiveness**

What makes an organization effective? Numerous researchers have attempted to define and measure the effectiveness of organizations, but there is practically little consensus on how to conceptualize, explain and measure it. This failure may be attributed to the fact that the notion of organizational effectiveness is complex, elusive and multidimensional (Cameron, 1978; Katz & Kahn, 1978; Kirchoff, 1977). It has been argued that, "trying to view organization effectiveness in a single dimension is much like trying to visualize a cube without depth perception, the result is distortion (Kirchoff, 1977, p. 347). The concept of organizational effectiveness may be regarded as being a value (Veldsman, 1982). Katz and Kahn (1978) contented that the debate on organizational effectiveness should be concluded with an explication of organizational effectiveness as the maximization of return to the organization by all means".

Organizational effectiveness has generally been regarded as a dependent variable, that is, an outcome of the organizations' contextual, structural strategic or process variables affected by these variables and in turn affecting them (Khandwalla, 1988). For instance high organizational performance may be a result of management practices (Khandwalla, 1977; Peters & Waterman, 1982) but it may also effect management practices (Singh, 1983).

Traditionally, researchers have defined organizational effectiveness in terms of goals (Etzioni, 1964; 1975; Hall, 1980; Simon, 1964). A variety of criteria of



organizational effectiveness ranging from productivity and efficiency considerations, to morale, job satisfaction, and organizational of mobility have been used (Campbell, 1977; Mott, 1972; Price, 1968, 1972; Steers, 1975; Webb, 1974).

According to Likert (1961), the organizational effectiveness can be identified in terms of causal (e.g., leadership, management decision, organizational philosophy, technology etc.), intervening (e.g., commitment to objectives, motivation and morale of members, skills in leadership etc.), and output (e.g., production costs, sales, earnings, turnover etc.) variables (p. 26-27). Lorsch and Morse (1974) explained effectiveness of organization in terms of match or congruence between the internal and external environment of organization; higher the match greater the effectiveness. Evidences indicates that it is very difficult to arrive at any single criteria of organization effectiveness. The debate on organizational effectiveness should be concluded with an explication of organizational effectiveness as "the maximization of return to the organization by all means" (Katz & Khan, 1978, p. 255). Some of the researchers have attempted to define effectiveness from the subjective viewpoints of organizational participants or constituents (Connolly, Conlong & Deutsch, 1980; Cummings, 1977; Kanter & Brinkerhoff, 1981; Kelly, 1978, 1984; Pfeffer & Salancik, 1978; Veldsman, 1982; Zammuto, 1982).

Cameron (1986) viewed organizational effectiveness as paradox. Paradox involves contradictory, mutually exclusive elements that are present and operate equally at the same time (Cameron 1986, P. 545). To be effective, an organization must possess attributes that are simultaneously contradictory, even mutually exclusive (Cameron, 1986, p. 545).

A variety of models of organizational effectiveness have been proposed. It has been noted that there cannot be one universal model of organizational effectiveness

(Cameron & Whetten, 1983), and consequently "multiple models of organizational effectiveness are required" (Cameron & Whetten, 1983). One of the comprehensive presentations of multiple models of organizational effectiveness is by Cameron and Whetten (1983). Some other models of organizational effectiveness are system model, adaptive-coping style, SIVA model, time dimension model, system resource approach, multiple constituency approach etc.

Katz and Kahn (1978) developed a "system model" of effectiveness. They took the stand that organizations being an open system import energy from the environment and then transform into some product form, and again export that to the environment. This cycle goes on when organization increases its efficiency, its effectiveness also may be likely to increase in many cases. They also talked about political effectiveness which is significant for organizational effectiveness. Political effectiveness consists of advantageous transactions with various outside groups and agencies, as well as with organization members. Increases in effectiveness by both means would result in a better organizational growth, endurance, and survival of the organization. So organizational effectiveness may be understood as the maximization of return to the organization by all means.

Schein (1970) conceives of organizational effectiveness in terms of adaptive-coping cycle. He asserts that the sequence of activities or processes which begin with some change in some part of the internal or external environment and end with a more adaptive dynamic equilibrium for dealing with the change is the organizations adaptive-coping cycle. According to him effectiveness depends upon good communication, flexibility, creativity, and genuine psychological commitment and this can be obtained by (a) recruitment, selection, and socialization practices, (b) more realistic psychological relationship, (c) more effective action group, (d) redesigning

organizational structure, and (e) better leadership in terms of the activities of goal setting and value definition.

Caplow (1964) has advanced a highly conceptual view of organizational effectiveness, the SIVA model. This model accounts for the four variables, namely Stability, which is a measure of organizations ability to conserve or increase the status of its positions; Integration, a measure of total volume of interaction among its positions; Voluntarism, a measure of organizations ability to provide for the satisfaction of individuals and to evoke desire on this part to continue their membership and achievement which is related with the net result of the organization's activity.

Gibson, Ivancevich and Donnelly (1976) developed the time dimension model. It is based on the system concept of the organization. This model emphasizes the time dimension. According to this model effectiveness depends upon the optimal balance of organizational performance over time and achieving the proper relationship among the criteria within a given time period. The criteria specified are production, efficiency, satisfaction, adaptiveness, development, and survival in short range, mid range, or long range criteria.

Another model of effectiveness, known as "System resource approach (Yuchtman & Seashore, 1967) defined the effectiveness of an organization in terms of its bargaining position, as reflected in the ability of the organization, in either absolute or relative terms, to exploit its environment in the acquisition of valued resources." They define resources as the "generalized means, or facilities, that are potentially controllable by social organizations and that are usable however indirectly in relationships between the organization and its environment" (Yuchtman & Seashore, 1967, p.900).

Price (1972) discussed effectiveness in terms of attainment of goals. According to him there are definable purposes or goals, and effectiveness can be represented by attainment of these goals. This approach views organization as an entity to serve the purpose of the key influentials, including owners, managers etc.; who have some power represented by attainment of its goals.

Conolly, Conlon and Deutsch (1980) suggested multiple constituency approach. This approach views effectiveness as a set of several statements each reflecting the evaluative criteria applied by various constituencies involved to a greater or lesser degree with the focal organization. This approach assumes that different constituencies will form different assessments of its effectiveness. Tsui, A.S. (1990) empirically tested the 'multiple - constituency model of effectiveness' using the human resource subunit as the focus for assessment and results supported the theoretical efficacy of the model.

Pennings and Goodman (1977) proposed that organizations are effective if relevant constraints can be satisfied and if organizational results approximate or exceed a set of referents or standards. They also proposed additional issues in their framework for exploration in Organizational effectiveness research. These were efficiency, time frame, constituencies, and levels.

Lawless (1972) developed a highly different conceptual model characterizing levels of effectiveness within the total organization based on McGregor's (1960) characteristics of effective groups. According to this model individual effectiveness determines group effectiveness, which in turn determines organizational effectiveness. In his hierarchy of effectiveness "variables" influencing effectiveness at the organizational level are influenced directly and indirectly by variables at the level of

individual and the group. The effective organization is built of effective individuals who work effectively in groups. This model is illustrated in figure 4.

The principal emphasis in this model is on social effectiveness. Which if achieved at individual and group level, will presumably result in higher level of performance at the organizational level.

Schneider, Gunnarion and Niles (1994), contended that quality of service to customers, innovation in research and development and marketing, good citizenship behaviors lead to organizational effectiveness. Murphy (1992) has suggested that organizations may improve their effectiveness through self evaluation. He argued that organizations need to develop a cyclical self-review process to aid learnings for improved effectiveness and ultimately increased competitiveness.

More recently, humanistic approaches to the studies of effectiveness emerged, resulting an expansion of person related variables, such as need fulfillment and satisfaction. In the Indian contest, Singh (1978) has suggested that Organizational effectiveness should be assessed in terms of organization's efficacy and organization's ability to respond to feedback from the environment. He also suggested that social, economic and behavior criteria may be used to assess organization effectiveness and indicated the need for satisfactory performance on all three sets of criteria. Chaturvedi (1980) also mentioned the multiple criteria approach to study organizational effectiveness.

Bhargava and Sinha (1992) studied the organizational characteristics of effectiveness in a hierarchical and heterarchical structure in Indian setting and found that under a heterarchical structure a significant improvement in organizational effectiveness was seen.

### Three levels of Effectiveness

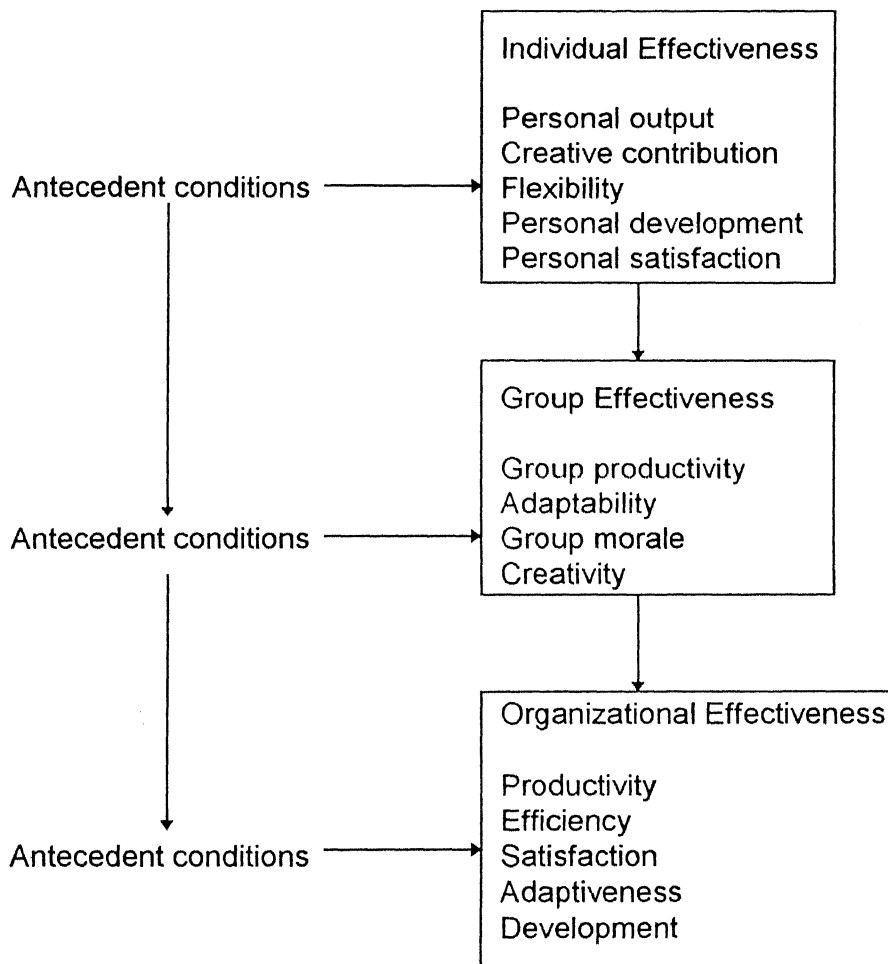


Figure 4. A model of organizational effectiveness by Lawless (1972).

To sum up, it seems that the concept of effectiveness is very wide, be it an individual effectiveness, group effectiveness or organizational effectiveness. Further the concept or meaning of effectiveness may vary from time to time and person to person. The dynamic changes in technical and social forces in work organizations may give rise to a new perspective of effectiveness each time. Keeping in view the perspectives of effectiveness mentioned earlier and the framework of present research endeavor a paradigm of effectiveness is proposed wherein the effectiveness is conceptualized in terms of three categories, namely individual, group and organizational effectiveness. Further the organizational effectiveness is conceptualized as a resultant of the contributions coming from the factors constituting the individual and the group effectiveness. Further details follow.

### **The Aspects of Effectiveness Included in the Study**

The concept of effectiveness may be looked upon as consisting of factors and elements that go to make up effective individuals, effective work groups, and finally effective organizations. In this connection, the present study would take into account the different aspects conceptualized to be related to the phenomena of individual, work group and organizational effectiveness.

### **Aspects of individual effectiveness**

Individual effectiveness was conceptualized in terms of individual need fulfillment, satisfaction, value realization, competence, and conflict resolution.

### **Need Fulfillment**

A number of theorists and researchers have expressed the significance of need fulfillment in an individual's overall success in life (Zimbardo, 1979, Maslow, 1943, 1954, 1970; Murray, 1938; Schaffer, 1953; Langer, 1937; Atkinson, 1964;

Feather, 1967; McClelland & Burnham, 1976; Hoyenga & Hoyenga, 1984; Herzberg, 1966; Herzberg, Mausner, & Snyderman, 1959; Murray, 1938; Schwartz, 1983; Cofer & Appley, 1964; Wahba & Bridwell, 1976).

Zimbardo (1979) noted that an individual high on n ach. might especially value prestige and work hardest in situations where success would mean greater prestige, whereas another individual with high n ach. who places greater value on the satisfaction; puts forth greatest efforts in situations in which success would bring that kind of satisfaction. McClelland and Burnham (1976) found that n affiliation was negatively related to managerial success, whereas n power has been to be the dominant motive for executive success (McClelland, 1970, 1975; McClelland & Boyatzis, 1982; McClelland & Burnham, 1976).

### Satisfaction

Some of the scholars (e.g. Klein & Maher, 1968; Lofquist & Dawis, 1969) have pointed out that the level of satisfaction depends upon the correspondence between an individual's personal expectations, aspirations, and needs and the extent to which the organization fulfills these needs and matches these expectations and aspirations. A number of researchers have equated satisfaction with personal effectiveness (Lawler & Porter, 1967; Organ, 1977; Schwab & Cummings, 1970; Siegel & Bowen, 1971; Bray, Campbell, & Grant, 1974; Bray & Howard, 1980). As stated by Locke (1976) Job satisfaction results from the perception that one's job fulfills or allows the fulfillment of one's important job values, providing and to the degree that those values are congruent with one's needs (p. 1307).

Kanungo (1986) stated that for some role incumbents, intrinsic needs may be more important than extrinsic needs and job satisfaction results when organizations provide their employees with specific outcomes that they value, expect to receive and



consider equitable. Khaleque and Rahman (1987) reported that job facets can be sources of both satisfaction and dissatisfaction and overall job satisfaction seems to be influenced by the satisfaction with job facets and personal life and the degree of satisfaction seems to be dependent on the satisfaction with the number of job facets as well as their perceived importance. On the other hand, Scarpello and Campbell (1983) suggested that global rating of overall job satisfaction may be a more inclusive measure of overall job satisfaction than the summation of many facet responses as the measure of overall job satisfaction. Hence it could be said that job satisfaction is a multidimensional concept and its multiple dimensions should be related to the specified independent variables (Dunnette, 1967; Weitzel, 1973).

#### Off-the-Job satisfaction

The relationship between job satisfaction and off-the-job satisfaction has been an area of interest for a long time (Weitz, 1952; Kabanoff, 1980; Kabanoff & O'Brien, 1980; Near, 1980; Pond & Green, 1983; Rice, 1980; Shaffer, 1987; Steiner and Truxillo, 1987). Off-the-job satisfaction could also be thought of as having multiple facets like job satisfaction (Shaffer, 1987; Iris & Barrett, 1972; Near et al., 1980; Bamundo & Kopelman, 1980; Schmitt & Bedeian, 1982; Champoux, 1978, 1981; Rice, 1982).

By subgrouping persons on the basis of their work satisfaction and nonwork satisfaction, Shaffer (1987) identified various patterns of satisfaction that were found to be associated with certain background experiences and current work and nonwork activities. Certain patterns of satisfaction among managers were identified by Bray and Howard (1980). It was found that both types of satisfaction, job and off-the-job, are dynamic and may significantly change over time (Bray, Campbell, & Grant, 1974). Judge and Watanabe (1994) examined individual differences in the

nature of the relationship between job and life satisfaction. Eighty per cent of subjects indicated that job and life satisfaction were related, a significant minority of subjects reported that this relationship was negative. Twenty per cent of subjects reported no relationship between job and work satisfaction. Frone, Russell, and Cooper (1994) suggested that relationship between job satisfaction and family satisfaction is non-causal.

Takalkar and Coovert (1994) measured job satisfaction in an Indian corporation. They suggested that the structure of job satisfaction in India was a modification of an eight oblique factor model proposed by Spector (1985). The eight correlated factors were pay, promotion, supervision, operating procedures, nature of work, co-workers, communication, and benefits.

Das and Mital (1994) investigated the moderating effects of production feedback and standards, singly or jointly, on the relationship between worker satisfaction and productivity. Results indicated no substantial correlation between worker satisfaction and productivity.

Wang (1994) based on his findings proposed a attributional model of work motivation suggesting that group attributional training (GAT) is effective in modifying subjects' attributional patterns and enhancing group performance and satisfaction.

Carson et al. (1994) found no significant relationship between promotion satisfaction and turnover or between perceived promotional opportunities and turnover.

Satisfaction in the present context. Satisfaction was understood in terms of discrepancy between what one aspires for and what one actually gets. The construct of satisfaction in this work was planned to be explored with respect to the construct of value realization. Discrepancy score was derived between aspired values and

values actually attained, thus the construct of satisfaction was treated to be related to the construct of value realization.

### Competence

Competence is viewed as an ability, capacity, or skill to perform a specific task. According to Reber (1985, p. 137) competence means ability to perform some task or accomplish something. The suggested synonyms of competence include ability, capability, capacity, proficiency, competency, skill, expertise etc. (Mcleod, 1986, p. 88). In general, the term competence connotes a satisfactory degree of ability to perform certain implied kind of tasks.

Researchers have long been pointing out that there is a tendency or need in human beings to explore and to produce effects over the environment (Berlyne, 1950; White, 1959; Erikson, 1952; Harlow, 1952; Hendrick, 1942, 1943; Montgomery, 1954; Piaget, 1952, etc.). Various theorists termed this need differently, for example as Mastery drive (Hendrick, 1942), Curiosity drive (Berlyne, 1954; Shand, 1914), Manipulatory drive (Diamond, 1939; Harlow, Harlow, & Meyer, 1950), and Exploratory drive (Angyal, 1958; Nissen, 1930). Piaget (1952) did not discuss about competence as such, but his theory of cognitive development implied that seeking out, exploring, and problem solving could not be separated from the adaptation to reality. Similarly, Erikson's (1952) concept of 'sense of industry' implies refinement and development of skills in the gross motor, fine motor, and intellectual spheres. Hendrick (1943) postulated an instinct to master. Foote and Cottrell (1955) defined competence as capabilities to meet and to deal with a changing world to formulate ends and implement them.

White (1959) synthesized all the above mentioned propositions and postulated competence as "effective motivation". This effective motivation (White,

1959, 1963) is manifested in exploration, curiosity, mastery, and the seeking of an optimum level of stimulation. The significance of effective motivation is to develop an individual's competence. Later White (1963) proposed the term 'sense of competence', representing the subjective feelings of the individual resulting from the interaction with his environment. The term 'sense of competence' may be referred to as the generalized belief in one's own ability to deal effectively with his/her surroundings (Felson, 1984; Sekaram & Wagner, 1980).

Wagner and Morse (1975) probably for the first time, made an attempt to study competence of managers. They have constructed a paper pencil scale of "sense of competence". Recently a number of researchers have conducted studies on competence in work or job context (Boyatzis, 1982; Betz & Hackelt, 1981; Hill, 1984; Sekaram & Wagner, 1980; Shukla, 1988). Hill (1984) suggested that competence is the ability to get things done.

Competence in present context. The term competence was conceived as the capacities of an individual to interact effectively with the person's environment. Discrepancy score was derived between the expected increase in capacities and attained capacities as a result of experience on job. Conceptually the idea is to look for the person's maturity in various capacities in mastering personal effectiveness.

#### Conflict resolution

By and large, conflict is a part of life be it in a work setting or personal sphere of the individual. Conflicts are of various kinds namely intra personal, interpersonal, intra group, intergroup, socio-political, and international (Pareek, 1982). Monat and Lazarus (1977) defined coping with conflict as an effort to master the condition of harm, threat, or challenge when a routine or automatic response is not readily available. Dewe, Guest, and Williams (1979) defined coping as an attempt to

respond to feeling of discomfort with an aim of removing that discomfort. White (1974) defined conflict resolution as a process involving effort on the way towards the solution of a problem. Lazarus and Launier (1978) defined coping as an effort, both action oriented and intrapsychic, to manage environmental and internal demands and conflicts among them which tax or exceed a person's resources. Apart from the above mentioned definitions, a number of researchers have expressed their views on conflict resolution (Pearlin & Schooler, 1978; McGrath, 1970; Schuler, 1984).

A number of models dealing with conflict have been proposed namely role episode model (Kahn, 1964), a model of stress and coping (Hall and Mansfield 1971) person - environment fit model (French, Rogers, & Cobb's, 1974), Chain model (McGrath, 1976) model of coping (Newman & Beerh, 1979; Bruke & Weir, 1980; Schuler, 1984).

Pareek (1982) suggested that conflicts cannot always be resolved but can be managed in different ways. In popular management literature (Frew, 1974; Kory, 1976) the use of transcendental meditation (TM) is advocated as a method of reducing stress without involving any substantial cost. Frew (1974) examined the relationship between TM and productivity at work and found that the practice of TM was related with six measures of productivity, namely better performance, increased job satisfaction, reduced turnover, better relationship with supervisor, better relations with peer, and a reduced motivation to climb on the hierarchy. Friend (cited in Bruke & Weier, 1980) extended the work of Frew (1974) and found that meditators showed a significant improvement on four of the six measures of productivity.

Hall (1972) identified 16 coping strategies in his study. Based on Levinson's (1959) classifications, he classified these strategies into 3 groups, namely structural role redefinition, personal role redefinition, and reactive role behavior.

Social support seeking in various forms has also been considered as a way of reducing stress (French & Caplan, 1972; caplan, 1975; Gore, 1973; Bruke , 1976; Pinnean, 1975, Mansfield, 1972).

Robbins (1974) proposed nine conflict management techniques namely, problem solving, superordinate goals, expansion of resources, avoidance, smoothing, compromise, authoritative command, altering the human variable, and altering the structural variables. Sherif (1953) suggested that conflicts can be minimized and resolved if the members are able to have superordinate goals, that is, goals which are critical for all and can be attained by joint efforts.

We now switch over to the other thrust variable in the study, namely group effectiveness.

### **Aspects of Group effectiveness**

Group effectiveness was conceptualized in terms of group cohesiveness, group goal accomplishment, group growth level, group recognition, and group satisfaction.

### **Group Cohesiveness**

It is often implied that effective work groups are cohesive. Group cohesiveness could be defined as the degree to which members are attracted to one another and are motivated to stay in the group (Keyton & Springston, 1990). Shaw (1976) defined group cohesiveness as attraction to the group and resistance to leaving it. Festinger (1950) defined cohesiveness as the resultant of all forces acting on the members to remain in the group.

Research has shown that cohesiveness can be affected by factors such as time spent together, the severity of initiation, group size, the gender make-up of the group, external threats, and previous successes (Insko & Wilson, 1977; Gullahorn,

1952; Thomas & Fink, 1963; Taylor & Strassberg, 1986; Wrisberg & Draper, 1988; Stein, 1976; Zander, 1979). Gullahorn (1952) found that among clerical workers in one organization the distance between their desks was the single most important determinant of the rate of interaction between any two of the clerks. Thomas and Fink (1963) found that as the size of the group increased, group cohesiveness decreased, suggesting that with the increased number of group members, smooth interaction among members became difficult hence group cohesiveness was reduced. A consistent finding in more recent studies is that women report greater cohesion than men (Bettenhausen, 1991; Taylor & Strassberg, 1986; Wrisberg & Draper, 1988).

Robbins (1993) has suggested that if a group has a history of successes, it builds an Esprit de corps that attracts and unites members. Research has generally shown that highly cohesive groups are more effective than those with less cohesiveness (Berkowitz, 1954; Greene, 1989). It has been found that cohesiveness influences productivity and productivity influences cohesiveness. Camaraderie reduces tension and provides a supportive environment for the successful attainment of group goals, and the members' feelings of having been part of a successful unit, can serve to enhance the commitment of members (Robbins, 1993, p. 312).

Nieva, Fleishman, and Rieck (1978) had a view that the relationship of cohesiveness and productivity depends on the performance related norms established by the group. If performance related norms are high, a cohesive group will be more productive than a less cohesive group. But if cohesiveness is high and performance norms are low, productivity will be low.

Bernthal and Insko (1993) examined the relationship of task oriented cohesion to social-emotional cohesion and found that symptoms of group think appeared less often when task-oriented cohesion exceeded social-emotional cohesion.

Hare (1976) suggested that as a consequence of increased group cohesiveness there is a greater interaction and social influence among group members. Members become more friendly and cooperative and tend to stress group integration behavior. In terms of social influence, data suggest that the higher the cohesiveness the greater: (a) the response to influence attempts by group members; (b) the likelihood of opinion change to agree with a partner's; and (c) the likelihood of agreement with majority judgments. In terms of goal achievement and performance, highly cohesive groups tend to be more effective than low cohesive groups (Shaw, 1976).

Evidences indicate that there is a tendency for members of more cohesive groups to be more satisfied than members of less cohesive groups. They are likely to be more satisfied with the group itself and what the group produces (Shaw, 1976; Van Sell, Brief & Schuler, 1981; Muler, Symons, Hu, & Salas, 1989). Furthermore, absenteeism and turnover are likely to be less when groups are more cohesive (Mann & Baumgartel, 1953), and there may be less work related tension (Seashore, 1954).

#### Group goal accomplishment

The group's goal, if clearly understood, can be a reason why an individual is attracted to a group. The goal setting theory asserts that specific and difficult goals lead to higher performance. In the late 1960s, Edwin Locke proposed that intention to work toward a goal is a major source of work motivation (Locke, 1968). That is, goals tell an employee what needs to be done and how much effort will need to be expended (Early, 1987). Even one way of judging the success of an organization is to ask how effective an organization is in achieving specified goals. Etzioni (1961) suggested that effectiveness is the degree to which an organization realizes its goals.

Specific hard goals produce a higher level of output than does a generalized goal of "do your best". The specificity of the goal itself acts as an internal stimulus (Robbins,



1993, p.221). The essential feature of a group goal is that it specifies a preferred state for the group as an entity and guides collective action toward achieving it (Cartwright & Zander, 1960).

The effects of group goal upon the motivation and adjustment of group members were explored by Raven and Rietsema (1957). The results of the experiment suggested that when the member of a group has a clear understanding of the group's goal and the group activities needed for the group to reach its goal, he will tend to experience feelings of group belongingness, as manifested, for example, by involvement with the group goal, sympathy with group emotions, and readiness to accept influence from the group. (Thus, this study emphasizes the motivational consequences of group membership).

Hersey and Blanchard (1990) have contented that individuals join a group because of different needs, for example, need for power, need for affiliation, or need for esteem. Satisfaction of these individual needs, at least in part, is dependent upon the accomplishment of group goals. The degree to which individual need satisfaction is achieved differentiates effective from ineffective groups. When the needs are harmonious, the group is probably effective. When they are not, the group is probably ineffective. Common goals or purposes, therefore, are the criteria of effective groups (Blanchard, & Johnson, 1982).

According to Blanchard and Johnson (1982), for the group to be productive, it must have goals that are understood by all participants. Progress towards these goals is the best way to measure effectiveness. Research has consistently shown that group productivity is highest in those groups in which techniques are used that simultaneously further the attainment of group goals and bring fulfillment of the needs of individual group members (Hersey & Blanchard, 1990, p. 320).

### Group growth level

Alderfer has reworked Maslow's need hierarchy to align it more closely with empirical research. His revised need hierarchy is labelled as ERG theory (Alderfer, 1969).

Alderfer proposed that there are three groups of core needs, namely existence, relatedness, and growth. The existence group is concerned with providing basic material existence requirements. The relatedness group is concerned with maintaining interpersonal relationships. Finally, growth needs are concerned with intrinsic desire for personal development.

Growth needs refer to the individuals' needs for such things as personal accomplishment, learning, and personal growth and development. Individuals with strong needs for growth are likely to respond much more positively to jobs high in motivating potential than are individuals with weak growth needs (Arnold & Feldman, 1986, p. 377). The contemporary growth school emphasizes the attainment of satisfaction through growth in skill, efficacy, and responsibility made possible by a mentally challenging work (Locke, 1976, p. 1300).

Growth is often used by managers to imply success. It has also been found that individuals in an organizational setup equate growth with effectiveness, hence managers are predisposed to the values of growth (Robbins, 1993).

Pfeffer and Salancik (1978) have proposed that growth is almost always consistent with the self interest of the top management in the organization. It increases prestige, power, and job security for this group and it is linked to executive compensation. Growth creates opportunities to work on new projects, more promotion possibilities, and higher salary increases (Robbins, 1993).

Growth in the present context. In the framework of the present research endeavor, Alderfer's concept of "growth need" was operationalized in terms of group

growth level of the role incumbents. The investigator proposes to measure the level of growth as an end state of the work groups.

### Group Recognition

Recognition could be defined as the demonstration of appreciation for a level of performance, an achievement or a contribution to an objective. It can be confidential or public, casual or formal. It is usually in addition to pay (Pitts, 1995). Recognition is deployed in professions, societies, religious movements, youth organizations, in fact in any situation that people come together to share common interests or purpose.

The most important form of recognition is the 'casual recognition' reflected in the management style of the organization. For example, a word of appreciation, personal effort of leader / manager towards the employees, positive strokes, support and encouragement etc. Casual recognition is one of those difficult leadership skills and behaviors that is essential to master in order to support individuals in empowered teams and work groups (Pitts, 1995). Another form of recognition is commendation. It can be private or public, written or verbal, but it is formal recognition of a particular achievement. In a similar vein, publication of papers in journals, professional publications, presentations at public seminars is another kind of recognition which motivates individuals. Tokens, work place privileges, celebration, implementation of the employee's suggestion are also considered as recognition.

More and more organizations are employing regular structured mechanisms of recognition. Troy (1992) reported that out of the 115 companies who practiced TQM, 96 had some form of formal recognition program (cited in Pitts, 1995, p. 37).

It has been suggested that both reward and recognition are important for work groups. Recognition is a powerful and cost-effective way of enhancing the

improvement process and is essential to culture change, whereas reward (for e.g. pay, bonus etc.) creates a value environment in which work is done. Reward and recognition both have a place in enhancing the 'total quality' (TQ) process, they are complementary and the impact of one would be reduced without the other (Pitts, 1995).

Vroom (1964) suggested that rewards can facilitate effective performance when people perceive that such a performance actually results in obtaining valued rewards within a reasonable period of time. Employee benefits like flexible work hours, paternity leaves, and day care centers have an impact upon reducing absenteeism and improving job satisfaction (Robbins, 1993). Mott, Mann, McLoughlin, and Warwick (1965) have shown that attitudes toward shift work are determined in a large part by the worker's perception of the degree to which his hours of work facilitate or interfere with his valued off-the job activities. Chadwick (1969) and Vroom (1964) have suggested the same.

Money also serves as a symbol of achievement (McClelland, 1961), as a source of recognition, and as a means of obtaining other values (e.g., leisure, work of art, etc.). Nearly all occupational groups consider either amount of pay and/or employment security to be relatively important (Herzberg et. al. 1957; Smith, Kendall & Hulin, 1969).

Locke (1973) found recognition to be one of the single most frequently mentioned events causing job satisfaction and dissatisfaction, especially among blue collar workers. Researchers using Herzberg's methodology found it to be one of the most frequently mentioned satisfiers, and also found it to be the fourth most frequently mentioned dissatisfier.

Another important function of recognition for work is that it provides a feedback concerning the competence of one's job performance. Thus, praise indicates that one

has done a job correctly, while criticism indicates that one has not met the job standards. Depending upon the form in which such feedback is given, it can be used to correct past errors and to set future goals for performance (Locke, Cartledge, & Koeppel, 1968).

In the present research work, the investigator proposed to study recognition in terms of recognition of the work group, considering it to be a part of group effectiveness.

### Group Satisfaction

The concept of satisfaction was considered to be an important variable. It was studied both at individual and group levels. the details of the concept have already been described earlier in the section dealing with individual effectiveness.

### Organizational Effectiveness

The last thrust variable in the study was Organizational effectiveness. The aspects of organizational effectiveness are described here shortly.

### Aspects of organizational effectiveness

Organizational effectiveness was conceptualized in terms of attainment of organizational goals, control of the environment, change and development, organizational health, productivity, and return.

### Attainment of Organizational Goals

The concept of goal attainment was studied both at group and organizational levels. The details of the concept has already been described previously, nevertheless it is important to mention that the most popular view of organizational effectiveness rests on the "goal paradigm" (Cameron, 1978; Keeley, 1978, & Steers, 1977). Etzioni (1961) states, "effectiveness is the degree to which an organization realizes its goals". Embodied in the view of effectiveness is the attempt to avoid

making value statements about what the organization should do (Keeley, 1978). This view is also used to help explain the activities of an organization (Steers, 1977), justify choices among alternatives (Hall, 1972), and provide a rationale for the organization's existence (Perrow, 1961).

An organization has four types of goals: the mission of the system, output (product and service) goals, system goals, and derived goals. The mission of the system is publicly stated objectives. These are most often phrased in terms of some ideal. Perrow (1961) called it output goals. Etzioni (1961) cited it as one type of official goal. Mission statements can provide a link between social function and the more specific targets expected from an organization (Keeley, 1978). If rated solely on the basis of mission accomplishment, no organization would be called effective, hence accomplishment of other goals too is essential for organizational effectiveness.

The other type of goals are output goals. Output goals are the technical aspects of the goods and services offered to customers and clients. Some of the output goals may appear frivolous and accomplishing product or service objectives does not mean that other types of goals are also being met (Hall, 1972). The firm that produces the highest quality auto may not be the most profitable (Khandwalla, 1977). Using only output goals to measure effectiveness can lead to problems (Osborn, et al., 1980), hence it is necessary to consider other goals of organization.

The third kind of organizational goals are "survival and system goals". This view takes the stand that an organization that contributes to society and produces "better" outputs will have a greater chance of survival. However, others argue that societal contribution and organizational outputs are important only because they contribute to the primary goal of survival (Gibson, et al., 1973; Hall, 1978; Thompson, 1967). Schein (1965), and Steers (1975) suggested that for most organizations, growth,

productivity, stability, harmony, flexibility, and prestige are considered important system goals.

Finally, the fourth kind of goal is derived goals. Perrow (1970) referred to derived goals as uses of power not apparently directed toward accomplishing system goals or output goals that are consistent with the major societal contribution of an organization. Derived goals stem from an organization's attempt to cope with internal and external pressures (Thompson, & McEwen, 1958). For example, business firms often take social responsibility. Organizations seeking support from outside units may thus accept goals in return for money, personnel, clients, or legitimization (Selznick, 1949).

#### Change and development

In order to plan effective interventions there is a need of some kind of a comprehensive "change theory" which explains how to initiate change, how to manage the total change process, and how to stabilize desired change outcomes. A problem regarding the initiating change is felt because people resist change, even when the goals are apparently highly desirable (Schein, 1983). Several theories of change were proposed by Lewin (1952), Hornstein et al. (1971), Lippitt et al. (1958), and Bennis (1969).

Kurt Lewin (1952) argued that successful change in organizations should follow three steps: unfreezing the status quo, movement to a new state, and refreezing the new change to make it permanent.

Shani and Pasmore (1985) proposed 'action research' for an organizational change. Action research refers to a change process based on systematic collection of data and then selection of a change action based on what the analyzed data indicate. Its importance lies in providing a scientific methodology for managing a planned

change. The process of action research consists of five steps, namely diagnosis, analysis, feedback, action, and evaluation.

Organization development (OD) can not be easily defined. It is a term used to encompass a collection of planned change interventions built on humanistic democratic values, that seek to improve organizational effectiveness and employee well-being. The organizational development values human and organizational growth, collaborative and participative processes and a spirit of inquiry (Brown & Coney, 1987).

OD can be thought of as a road to empowerment. By that it is meant to say that OD interventions can provide the change vehicle for making people more accepting and comfortable with the empowerment (Robbins, 1993, p. 685). Sensitivity training, survey feedback, process consultation, team building, intergroup development are a few examples of OD interventions. Hence, it could be said that changes in structure, technology, and people might contribute to organizational effectiveness (Leavitt, 1964).

Focus for change in the present study. In the present study organizational change and development was looked at in terms of organizational growth, organizational mobility, and team building.

#### Control of the surrounding environment

The next aspect included in the study was control of the surrounding environment. The term environment means those factors external to the organizations and its long term growth (Arnold & Feldman, 1986). Environmental factors like economy, demographic trends, advances in technology, market conditions, the legal climate, and political conditions are a few examples of an organization's environment which affect organization's growth and effectiveness.



Environment vary in how favorable or hostile they are (Mintzberg, 1979). Favorable environment facilitate the organizational growth; hostile environment impede it. Environmental stability, complexity, and environmental uncertainty are the major deciding factors for environment's favorableness or unfavorableness towards organization.

Burns and Stalker (1961), and Lawrence and Lorsch (1967) proposed contingency theory of organizational environments. Burns and Stalker (1961) suggested that organizational environment moderate the relationship between organization design and organizational effectiveness. The fit between the type of organization structure and the type of environment influence how effective the organization can be. Burns and Stalker (1961) found that in organizations where environment was static organizations using a mechanistic structure were most effective. In contrast, organizations operating most effectively in dynamic environment were organic in structure.

Lawrence and Lorsch (1967) found that for organizations to be effective, different departments had to be structured in different ways. They strongly encouraged organizations to let the structures of their subunits vary, depending upon the nature of the work they do and the types of environment they face. Though classical theorists would be opposed to this view, they argued that the best way to coordinate is not standardization, but mutual adjustment.

It is clear that organizations are heavily dependent upon their environment, their survival can be at stake when the environment changes. Thus, it is important to try to control those environmental factors that affect their operations (Kotter, 1979). Traditionally the organizations have been 'reactive' in controlling the environment. Organizations merely took the environment as given and tried to make

the most of it. However, organizations can also be 'proactive' toward their environments. Organizations can try to prevent adverse changes in their environments, or actually try to change the environments themselves (Kotter, 1979).

The three most common reactive strategies organizations have used to adjust their structures to their environments are (a) creation of special subunits to deal with environmental forces; (b) creation of corporate marketing or public relations departments; and (c) creation of boundary spanning roles (Aldrich & Herker, 1977).

The three most common proactive strategies organizations have used include (a) acquisition of new business and/or sale of existing business; (b) diversification, and (c) joining political action groups and trade associations.

Aspects of control of the environment in the present study. In the present work control of the environment was studied in two forms. (a) Internal control of the environment, (b) external control of the environment. Internal control was judged through appropriateness of the organizational internal leadership, socialization, innovation, ability to solve most generic problems such as coordination, adaptation, resource allocation, integration etc. External control was judged through the control of the surrounding environment like, extension of the organizational boundaries, building public relations, establishing functional linkages, supporting laws and governmental regulations, contributing to political parties etc.

### Health

One of the ways to measure organizational effectiveness is to study the health of role incumbents. The demands and opportunities, the stresses and supports of organizational work roles affect the health of the individuals enacting those roles. Health is considered to be a complex outcome determined in part by properties of the organizations in which they work and the positions they occupy in those organizations.

Such effects are thus part of organizational output. However, they are the "unintended" effects of organizational life. (Katz & Khan, 1978). A number of researchers have conducted studies on mental or physical health of role incumbents in work organizational set up (Haber, 1971; Selikoff & Hammond, 1975; Leinhardt et al., 1969; Srole et al. 1962; Singh 1986).

In the present work the concept of health was looked upon in terms of conflict resolution, organizational endurance and survival, and morale of the individuals.

#### Maximization of return to the organization

It is suggested that efficiency in organization increases the possibility for energy storage and is conducive to the long-run growth and survival. Efficiency, however, is a criterion of the internal life of the organization, especially the economic and technical aspects and organizational success depends not only on internal efficiency but also on advantageousness of boundary transactions. Such transactions involve persuasion and the use of influence and are in some degree 'political' (Katz & Kahn, 1978).

Economic and technical aspects make organization a more efficient system for the transformation of energy and thereby contribute to its growth and survival. Political solutions make their contribution by dealing with problems of input and disposal in other ways, involving direct manipulation of the environment. Both economic and political means contribute to profitability and to the maximization of return to the organization (Katz & Kahn, 1978, p. 249). It is difficult to draw a line between increments in organizational returns that are the result of efficiency or political advantage.

Maximizing the return to the organization has certain common effects, whether it results from increments in efficiency, or from advantageous transactions from

outside agencies or groups. An increased return contributes to the immediate profit, growth, and survival of the organization. Organization returns that result because of efficiency, may permit successful political initiatives that could not otherwise be carried out. On the other hand political advantages, say in procurement or sales, have economic consequences.

### Productivity

Productivity denotes the efficiency with which the output is produced by the resources utilized. It is usually measured as a ratio relating output (goods, commodities, products, services, etc.) to one or more of the inputs (labor, capital, materials, fuel, energy, etc.) associated with that output. Productivity signifies a continual striving towards the economically most efficient mode of production of goods, commodities and services needed by a society (Rastogi, 1988).

Growth in productivity may be achieved in two ways one, improvement in efficiency which leads to higher output even with a given state of technological knowledge two, higher effectiveness of new production technologies resulting from innovation and technical advance. Productivity, in a general sense, represents a close integration of effectiveness and efficiency. Effectiveness relates to achievement of performance results. Efficiency relates to optimal utilization of resources. (Rastogi, 1988, p. 18). Productivity thus denotes the relationship between the use of resources and the results of that use.

Edosomwan (1980) has suggested that adequate work climate, teamwork, right kind of training, a balanced emphasis on people and product management, emphasis on achieving excellence in product and service offerings are essentials of productivity. In the present work productivity is taken as a criteria of measuring organizational

effectiveness. Thus, in total, six aspects of organizational effectiveness would be included in the study.

Lastly, it would be suggested that the construct of effectiveness was the thrust variable in the study which was conceptualized at individual, work group, and organizational levels. However, a number of other relevant variables were also included which would be described shortly. Prior to that, the arrangement of the variables in the conceptual scheme would be mentioned first (Figure 5 to 7, to be described shortly). The description of variables would generally be presented in an alphabetical order within a sector of the conceptual scheme except for the concept of effectiveness that would be given top priority in the sequence of description. Thus the theoretical aspects of the construct of effectiveness have already been described.

An additional point to be noted is that the Figure 5 is more a representation of the measures of the variables rather than the variables themselves. For instance, organizational change and development was one of the variables but had three measures. Thus the description would be made concept wise and not measure wise. The details of the other variables, apart from effectiveness, follow.

### **The Variables in the Study**

This work is primarily about the effectiveness of individuals, work groups and organizations. But at the same time, this work is also about the organizational dynamics as a whole. Hence, a number of other relevant variables pertaining to individual, group, and organizational effectiveness are incorporated in the study. The description of the variables follows.

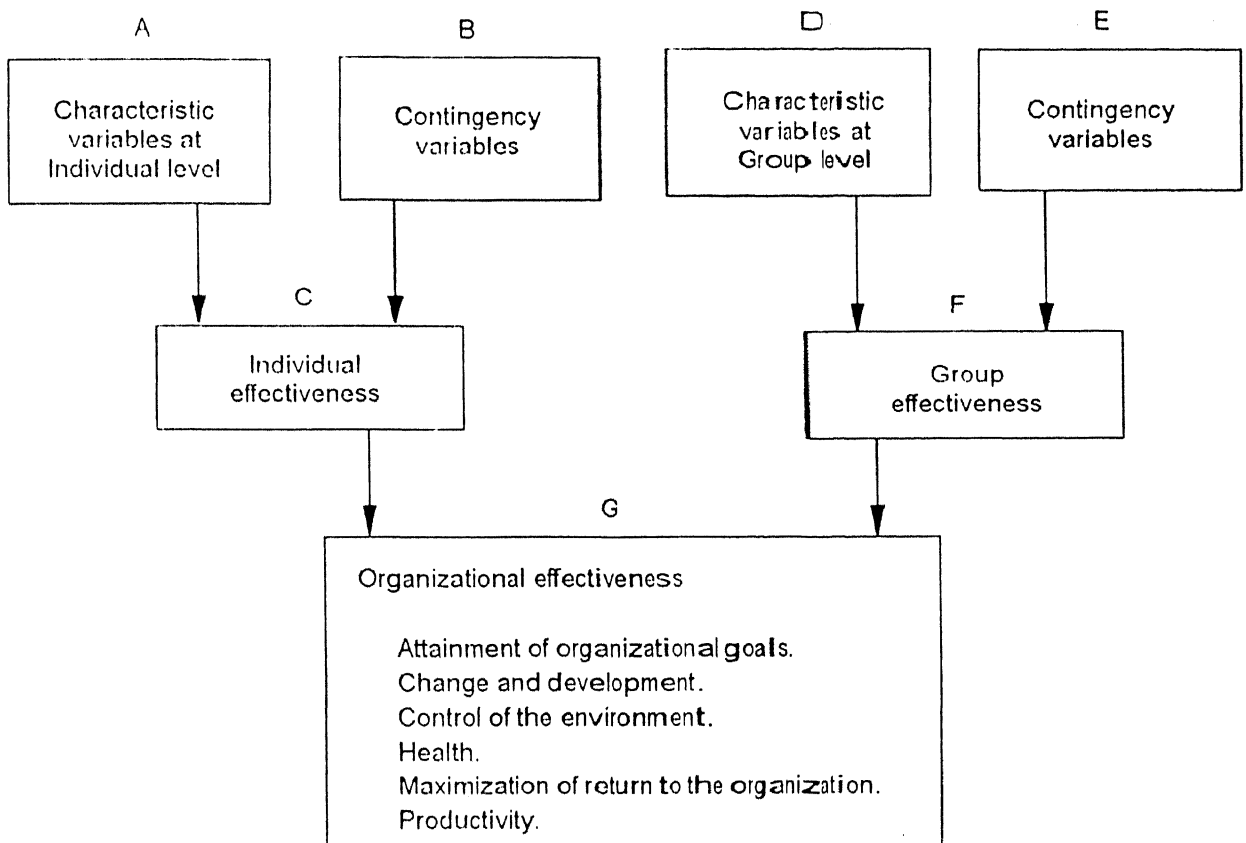


Figure 5. Showing the sectors, their conceptualized relationships, and the measures of the variables comprising the sectors at the overall conceptual scheme level.

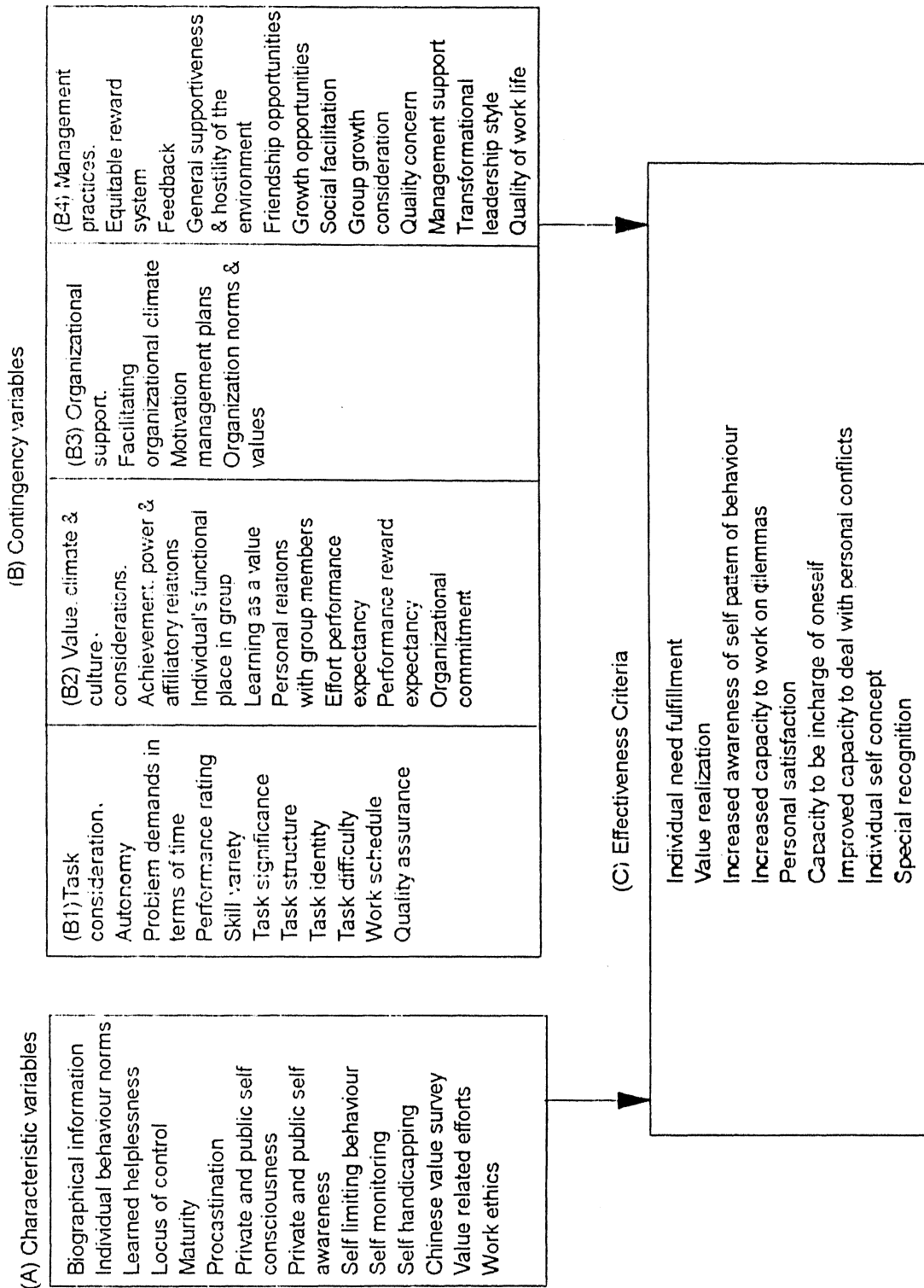


Figure 6. Showing the sectors, their conceptualized relationships, and the measures of the variables comprising the sectors pertaining to effectiveness criteria at the INDIVIDUAL LEVEL.

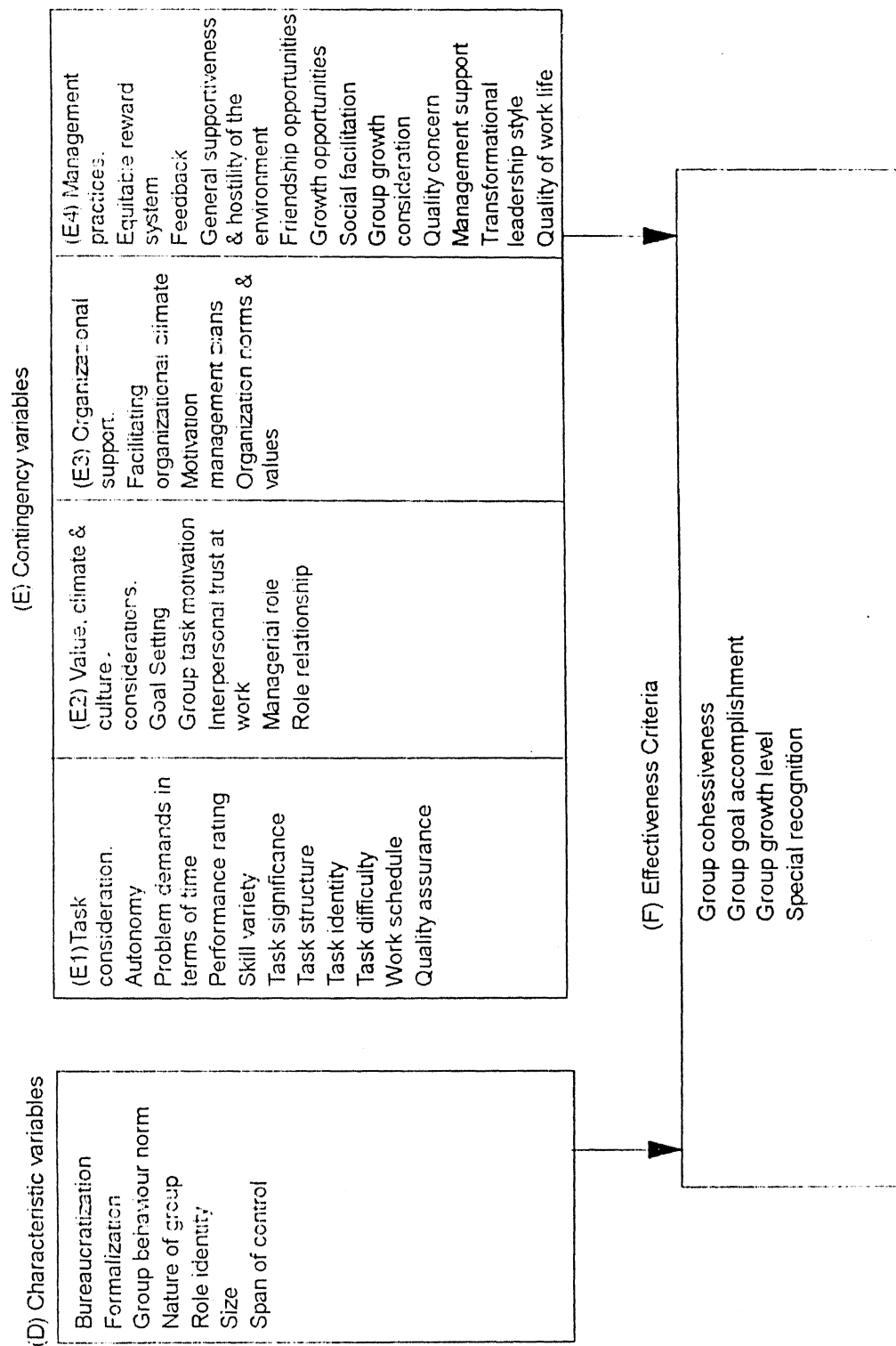


Figure 7. Showing the sectors, their conceptualized relationships, and the measures of the variables comprising the sectors pertaining to effectiveness criteria at the GROUP LEVEL.



## Individual Characteristics Variables

### Biographical Information

The importance of biographical information is defined as 'a usually written history of a person's life' (Mish, 1987, p. 152) to predict and understand human is enormous (Owens, 1976). Biographical information has long been successfully used for a variety of purposes and has been shown to be a valid predictor of organizationally relevant criteria such as selection, placement, success, turnover career, paths, job performance, managerial effectiveness etc. (Appel & Feinberg, 1969; Baer, & Williams, 1968; Brush & Owens, 1979; Cascio, 1976; Childs & Kilmoski, 1986; Feild & Giles, 1980; Fleishman & Berniger, 1960; Goldsmith, 1922; Klimoski, 1973; Laurent, 1970; Owens, 1971; 1976; Owens & Champange, 1965; Rosenbaum, 1976; Schoenfeldt, 1974; Shaffer, Saunders & Owens, 1986; Smith Albright, Glennon & Ownes, 1961).

The relationship between education, management style, and organizational effectiveness has been explored by Lawler (1985). He found that raising educational levels does not necessarily lead to higher organizational effectiveness.

Some empirical evidence has been found for the positive linear relationship between age and job satisfaction (Altimus & Tersine, 1973; Arvey & Dewhirst, 1979; Carrell & Elbert, 1974; Friedlander, 1963; Gibson & Klein, 1970; Lawrence 1972; Sabh & Otis 1954; Hulin & Smith, 1965). Dubrin (1985) contended that the relationship between age and job satisfaction is non-linear.

Mason (1995) investigated the possible existence of gender differences in job satisfaction. Findings show that U.S. women and men in management apparently did not differ from one another in their sources of satisfaction at work. Relationship

between age and locus of control has been explored (Lao 1976). Lao contended that locus of control is an age related variable and the concept has a different meaning for older people. Knoop (1981) explored the relationship of internal-external locus of control with education, sex, income, self-esteem, job involvement, job satisfaction and alienation across different age groups and these variables showed stronger correlations with locus of control for older adults than for younger adults.

Travis and Kohli (1995) studied the relationship between birth order and academic achievement and found a strong relationship between sibling order and educational attainment. Age, education, salary, hours of work and supervision have been found to be related to job satisfaction of the employees (Lawler, 1971; Lee & Wilber 1985; Weaver 1980; Abolson 1986; Curran & Stanworth, 1981; Dianne & Walter, 1982). Raj, and Chauhan (1994) found that socio-economic status of the individuals affect their perception of work-values.

### Learned Helplessness

The concept of learned helplessness suggests that after prolonged contact with uncontrollable events, people often demonstrate impaired performance in new achievement situations and report depressed mood (e.g., Hiroto & Seligman 1975). These people show learned helplessness defined as a syndrome of cognitive, motivational and emotional deficit after lengthy exposure to non-contingent outcomes (Seligman, 1975). It could be said that the phenomenon of learned helplessness was organizationally thought of as being mediated by the perception of uncontrollability (Dweck & Reppucci, 1973; Seligman 1975). Later investigations have contended that learned helplessness is determined by the causal attributions for uncontrollable outcomes (Abramson, Seligman, & Teasdale, 1978; Moor, Strube, & Lacks, 1984). Both situational and dispositional variables are ascribed specific

roles in the development of attributional patterns and learned helplessness (Raps, Peterson, Reinhard, Abramson & Seligman, 1982). However, the role of socio-cultural antecedents in the development of learned helplessness has yet to be resolved (Sahu, 1985).

Learned helplessness theory has also been used to explain the deficit in the achievement of oriented behaviors (Dweck, 1975; Dweck & Repucci, 1973; Dweck & Wortman 1982; Hocksema, Girgus & Seligman 1986). Bogginao (1991) concluded from their study that individuals high on extrinsic motivational orientation had a more maladaptive attributional style of learned helplessness than those on the intrinsic motivational orientation. In a study by Boggiano (1992), it was seen that an extrinsic motivational orientation (the predisposing trait) and an evaluative / controlling cue (situational stressor) together increase the likelihood of helplessness deficits. Findings also suggest that learned helplessness achievement motivation and task attention are affected by the task difficulty level (Lo, 1993). Nolen, Girgus and Seligman (1991) reported on the basis of their study that there is a sex difference in terms of attributional styles. Boys adopt learned helplessness strategy more as compared to girls, for explaining their behavior.

Arnhold and Razak (1991), suggested that learned helplessness lowers the self-esteem of industrial employees and hence gives rise to a quality problem among the work force.

Findings by Sakano, Maeda and Tohjoh (1988), show that individuals reject the self-handicapping behavior when provided with the positive feedback about the correctness of their task. Positive feedback enhances their self-efficacy. Another finding by Mikulincer, Yinon and Kabili (1991) suggests that the absence of feedback and failure in unsolvable problems is highly associated with nonspecific epistemic

needs NSEs (i.e., the need for structure and fear of invalidity) and learned helplessness.

Sahoo and Tripathy (1990) in an Indian setting examined the association between learned helplessness (LH) and work efficiency among industrial employees. Results indicated that personal helplessness was positively related to noncontingency (NC) and motivational (MT) deficit and was negatively related to satisfaction (ST). However, the relationship between personal and universal helplessness was positive. In a study by Sitiensmeier and Schurman (1990) it was found that repeated uncontrollable failure on one task and performance deficits on subsequent tasks lead to learned helplessness.

#### Locus of Control

Some people believe that they are the masters of their own fate. Others see themselves as pawns of fate, believing that what happens to them in their lives is due to luck or chance. The first type, those who believe that they control their destinies, have been labeled "internals", whereas the latter, who see their lives as being controlled by outside forces, have been called "externals" (Rotter, 1966).

A number of scholars have taken up works related to the concept of internal -- external control of reinforcement and in the process have also come up with an equally large number of definitions, such as those by Abramowitz (1973), Broedling (1975), Coan, Fairchild, and Dobyns (1973), Crandall, Katkovsky, and Crandall (1965), Levenson (1975), Petterson (1987), Phares (1976), Luthans (1989) Arnold and Feldman (1986), and Teser and Grossman (1969) Kumar and Srivastava (1985). Some variations in their definitions of the concept are simply that internal locus of control refers to the presence of control over events whereas external locus of control refers to the absence of control over events. Numerous researchers have

found that internals as compared to externals perceived more often events as a result of their even actions (Hammar & Vardi, 1981; Roark, 1978); perceived more alternatives in choice situation (Harvey, Barnes, Sperry & Harries 1974); and tended to seek situations where control is possible (Julian & Katz, 1968; Kabanoff & O'Brian 1980, Khale 1980).

There is an increasing evidence that the internal -- external concept is multidimensional (Collins, 1974; Duffy, 1977). Sihna, Singh and Shukla (1986) reported that the concept of locus of control was multidimensional in its structure, that the structure of locus of control among Indian executives was different from the one among Western executives, and that mixed locus of control (instead of clear-cut internal and external) also existed among the Indian executives.

Mitchell (1975), found that internally controlled employees are generally more satisfied with their jobs, are more likely to be in managerial positions, and are more satisfied with a participatory management style than employees who perceive external control. Other studies have found that internally controlled managers are better performers (Anderson, 1977), are more considerate of subordinates (Pryer & Distenano, 1971), tend not to burn out (Glogow, 1986), and follow a more strategic style of executive action (Miller, 1982). Such generalizations can not be warranted because there is some contradictory evidence for e.g., Durand and Nord (1976) concluded that the ideal manager may have an external orientation because the results indicated that external managers were perceived as initiating more structure and consideration than the internal managers.

More often it is found that internals are more likely to try to influence others as to the way they would like them to behave and, conversely, are less prone to accept the influence attempts of others. In addition, internals appear to be more capable than

externals of coping effectively with stressful and ambiguous situations (Anderson, 1977).

A large amount of research comparing internals with externals has consistently shown that individuals who rate high in externality are less satisfied with their jobs, have higher rate of absenteeism, are more alienated from the work setting, and are less involved on their jobs than are internals (Spector, 1982; Blau, 1987). In a series of studies it was found that employees who are high self-monitors, possess an internal locus of control, and have a high need for power are more likely to engage in political behavior (Biberman, 1985; Ferris, Russ & Fandt, 1989). Nicholas, (1989) in his study found that locus of control appeared to moderate differences between high & low self monitors. While self-monitoring and locus of control were not correlated, the daily interaction choices of subjects differed considerably. High self-monitors choose more people to interact with as self-monitoring theory predicts. However, there was an interaction effect with external high self-monitor seeking more social contacts than high and low internal self-monitors. Heisler's (1971) findings show that employees with a greater belief in external control report significantly lower personal effectiveness than those with a lesser belief in external control.

Das and Agarwala (1994) conducted a study to investigate the effect of LOC upon the job satisfaction of engineers. Their results indicated that engineers with internal LOC had significantly better job satisfaction in comparison to externals.

Internality has been found to be positively related to self-esteem (Bachman, 1970; Fish & Karabenick, 1971; Sadowski, Woodward, Davis & Elsboury, 1983; Wallace, 1984a) whereas externality has been found to be negatively related to self-esteem (Phares, Ritchie, & Davis, 1968).

Cunningham and Berberian (1976) found that boys with high self-esteem scored more on internality than boys with low self-esteem whereas girls with high self-esteem scored less on internality than girls with low self-esteem.

It has been found that internals occupy a higher status position in comparison to externals (Andrisani & Nestel, 1976; Davidson & Bailey 1978; Malikiosi & Ryckman, 1977; Miller, 1982).

The concept of locus of control and leadership has been found to be related with each other. 'Internal leader' preference for a particular style to deal with their subordinates has been found to be different from "external" preference for a particular style (Anderson & Schneier, 1978; Goodstadt & Hjelle, 1973; Pryer & Distenfans, 1971). Similarly, the subordinates' reactions to the leaders' style have also been found to be related to locus of control (Abdel - Halim, 1981; Cravens & Worchel, 1977; Mitchell, Smyser & Weed, 1975). Tseng (1970) found internals showing more ability to work with others and more cooperation, self-reliance, courtesy, reliability, and work knowledge. Consistently internal subjects were shown to be more competent and achievement-oriented than external subjects (Broedling, 1975; Joe, 1971; Lefcourt, 1966; Prociuk & Breen, 1974). The explanation given for this suggested that internal subjects perceived reinforcements to be directly related to their ability and effort, or in other words, they perceived situation within their control.

The studies on locus of control and job characteristics are inconsistent and inconclusive. Kimmons and Greenhaus (1976) found internals reporting having more autonomy and receiving more feedback than did externals. Sims & Szilagyi (1976) found some support for this hypothesis that locus of control would moderate the relationship between perceived job characteristics and job satisfaction. He found that only for autonomy there was a significant difference in the correlations with

supervisor for the moderating role of locus of control (Kimmons & Greenhous, 1976). Spector and Connell (1994) also found that locus of control was most strongly related to the job stressor of autonomy and internals were found to experience less job stress and more job satisfaction.

### Maturity

The term maturity refers to the ability and willingness of people to take responsibility for directing their own behavior (Hersay & Blanchard, 1974). It has two components - job maturity and psychological maturity. Job maturity is concerned with one's knowledge and skills and psychological maturity is concerned with one's willingness or motivation to do some thing (Robbins, 1993).

Onivehu, (1991) found that sex had a direct significant influence on career maturity. He further suggested that sex also had an indirect significant influence on career maturity via self concept, i.e., if individuals have a better self concept of themselves, they are more likely to develop more mature behavior in their career. Wallace, Serafica and Osipow (1994) in their study found grade and sex differences in career maturity, and Identity status emerged as a stronger predictor of career maturity than self concept. The relationship between career making self efficacy and educational / occupational career maturity was studied by Weakami, Masanori, (1993).

Borofsky and Watson (1994) observed a relationship between the supervisors' ratings of job performance and emotional maturity in their study. Smith and Comer (1994) studied self-organization in small groups. Subjects were measured for psychological maturity. Results showed that task effectiveness was found to correlate significantly with the degree to which group developed the properties or design features specified by the self organization paradigm.



Sense of competence has been found significantly correlated with skill and ability, job feedback and need for achievement. It has been also found that sense of competence predicted supervisory performance appraisals (Steel, Mento, Davis, Wilson, B.R. 1989).

Blank, Weitzel, and Green, (1990) examined the underlying assumptions regarding the situational leadership theory's prescriptions that subordinate maturity moderates the relationship of leader task and relationship behavior with indicants of leader effectiveness. Results did not support the theory's assumption. Schneider, (1992) from the findings of his study, concluded that psychological maturity is a key factor in determining the effectiveness of professionals and paraprofessionals.

### Need

Need may be defined as "biological or psychological motive condition that serves to direct an individual toward a common goal" (Zimbardo, 1979, p. xiii). Some other terms are used interchangeably with need, a prominent one is motive. Motive may be defined as "a condition, usually social or psychological which serves to direct the individual toward a certain goal" (Zimbardo, 1979, p. xiii). Needs of social motives explain the cause of behavior. People may be consciously aware of their needs and acts toward need reduction. At other times, however, they may not be consciously aware by themselves. Nevertheless, their needs may be inferred on the basis of behavior they show. In essence, needs or social motives are the mainsprings of human action. Social motives are general, persisting characteristics of a person and since they are learned, their strength differs greatly from individual to individual (Morgan, King, Weisz, & Schopler, 1986, p. 281).

Scholars have defined need in different ways (Langer, 1937; Maslow, 1943; 1954; Murray, 1938; Centers, 1948; McClelland, Atkinson, Clark, & Lowell, 1953;

Schaffer, 1953), though all of them agree that broadly need can be classified in two categories (a) vital or primary needs which are mainly of biological origin, and (b) non-vital or secondary needs which are mainly the results of social learning process (Mackinnon 1963, pp. 112-114.)

Maslow (1943, 1954, 1970) proposed 'Need Hierarchy' theory. The theory suggests that need can be classified into five categories and these categories are structured in a hierarchy of prepotency and probability of appearance. The hierarchy of needs (in ascending order of prepotency) is as follows. The physiological needs, the safety needs, the belongingness or love needs, the esteem needs, and the need for self-actualization (Maslow, 1970, pp. 35-47). Maslow (1970) also discussed the two additional need systems, the "aesthetic" needs, and the desire to know and understand. The gratification of a need activates the next higher need in the hierarchy (Maslow, 1970).

Alderfer (1972) proposed a theory of need which is widely known as the ERG theory, suggesting three broad categories of human needs, namely existence, relatedness, and growth. Alderfer has modified Maslow's need categories and these modifications involve a change in prepotency relationships and certain additions to the theory.

Schutz (1958) proposed a three-fold classification of interpersonal needs. They are, need for inclusion, need for control, and need for affection. By interpersonal, Schutz means the relationship that develops between people where the psychological presence of the other person puts some pressure for activity while interacting.

McClelland (1961, 1975) identified three basic needs, (a) need for achievement (n-ach), (b) need for power (n-power) and (c) need for affiliation (n-affiliation). It was found that people with high n-ach are task-oriented, prefer moderately challenging

tasks on which their performance can be evaluated, where they can take personal responsibility and get personal credit for the outcome, and on which they have some control over the outcome (McClelland, 1961, 1962, 1971).

McClelland later proposed that some constructs other than n-ach are required to explain managerial effectiveness in a large organization because of the fact that successful and effective managers were not necessarily found to have high n-ach (McClelland & Burnhor, 1976). . McClelland (1975) viewed n-power as the essential ingredient for understanding and predicting managerial success and found n-power as more important than n-ach, for managerial success at higher levels.

McClelland (1970) made distinction between personalized power and socialized power. Personalized power is satisfied by having domination over others and by conquering others. Personalized power does not involve inhibition or self-control (McClelland & Burnham, 1976). In contrast, socialized power involves influencing others toward task and goal attainment and has high inhibition. McClelland and Burnham (1976) found better managers to be high on socialized power as they work toward the accomplishment of organizational goals rather than for personal aggrandizement.

Need for affiliation has generally been defined as a need to establish friendly relations with others, or a need to be a part of a group and to be accepted by that group. A number of researchers (e.g., Alderfer, 1972; McClelland, 1975; Maslow, 1943, 1954, 1979; Schachter, 1959; Schutz, 1958) have studied the need for affiliation. Affiliation may be an expression of fellow-feeling (Pestonjee, 1985). The n-affiliation has been found to be negatively related to managerial success (McClelland & Burnham, 1976).

The n-ach has been found to be related to managerial behavior and economic achievement (McClelland, 1961; McClelland, Atkinson, Clark & Lowell, 1976; McClelland & Winter, 1969). However, some researchers (e.g., Harrell & Harrell, 1976) found n-ach to be negatively related to earnings. McClelland and Boyatzis (1982) found high n-ach to be associated with managerial success but only at lower levels. The n-power has been found to be the dominant motive for executive success (McClelland, 1970, 1975, McClelland & Boyatzis, 1982; McClelland & Burnham, 1976). Campbell, Dunnette, Lawler, III., and Weick, Jr. (1970) contended that better managers tend to show a life-time pattern of high achievement, power and economic motivation. Steer (1981) argued that successful managers may be those who combine power-orientation with achievement-orientation. Some researchers (e.g., Cummin, 1967; Stahl, 1983) found a combination of n-ach and n-power to be associated with managerial success.

In a study incorporating leadership styles, interpersonal need structure, and organizational climate, Sinha and Kumar (1985) found nine dimensions of organizational climate out of which flexibility was correlated with expressed affection, and planning and development was correlated with expressed affection and wanted affection. On studying the relationship between personal characteristics and charismatic leadership House (1977) suggests that an important characteristic of charismatic leaders, along with a tendency to dominate, is strong conviction for beliefs and need to influence others. In an examination of US Presidents, House (1990) have confirmed the importance of such traits as need for power in distinguishing charismatic from non-charismatic Presidents. Simonton (1988) also found charismatic U.S. Presidents to have a high need for power.

Venkataraman and Valecha (1981) studied the need satisfaction among managers of public and private sector organizations. They found that the corporate ownership had no influence on overall need satisfaction. However, there was greater deficiency in terms of the autonomy and self-actualization needs among the public sector managers.

Schroth (1986) found n-ach scores to be positively related to task performance under the intrinsic task orientation. The simultaneous presence of both n-ach and n-power was found to be significantly correlated with research and development effectiveness for scientists, engineers, and executives (Varga, 1975).

Schaffer (1953) has usually been credited with the initial empirical work on the relationship between human needs and job satisfaction. Employees high on higher-order need strength were found to show greater job satisfaction, good performance, and high motivation (Spector, 1985). Porter and Lowler (1968) asserted that job characterized by high level of responsibility, challenge, and self control should provide high levels of satisfaction to people high on autonomy and self actualization needs. A number of theorists have suggested that it is the degree to which the job fulfills or allows the fulfillment of the individual's need that determines his degree of job satisfaction (e.g., Lofquist & Dawis, 1969; Morse, 1953; Porter, 1962; Schaffer, 1953; Wofford, 1971).

### Procrastination

It has been estimated that many people engage in procrastination (Ellis & Knaus, 1978), the purposive delay in beginning or completing a task to the point of experiencing subjective discomfort (Solmon & Rothblum, 1984). Some people fail to complete projects because of task aversiveness, personal fears of failure (Solmon & Rothblum, 1984) and / or avoidance of self-confirmation about abilities (Ferrari, 1991).

Procrastination may be considered as a tactic to protect vulnerable self-esteem (Burka & Yum, 1983). There are occasions, however, when delaying the completion of a task is appropriate and advantageous. Such occasions imply that some procrastinatory behavior may be a form of perfectionism (Ferrari, 1992). Procrastinators view their self-worth as determined by their ability (Burka & Yum, 1983) and procrastination has been related to a concern for appropriate social behavior (Ferrari, 1991) and social anxiety (Ferrari, 1991). Procrastinators compared to non-procrastinators also engage in impression management behaviors (Ferrari, 1991).

Recent studies indicate that consistent procrastination is not an effective approach to perfect performance. Procrastinators spend a disproportionate amount of time with some projects compared to other projects (McCrown, Johnson & Petzel, 1989). Compulsive procrastinators spend less preparation time on tasks likely to succeed and more time on tasks likely to fail (Lay, 1990). It is possible that some procrastinators never complete a task because they keep doing over and over some component of the project in an attempt to produce a flawless finished project (perfectionism). Failure, instead of success, occurs since the task has been over-worked at the expense of other project components (Burns, 1990). An increased rate of failure, in turn, might lower the person's self-esteem, which may promote future task incompletions and a repeated cycle of failures (Hewitt, 1986; Hewitt, Mittelstaedt & Wollert, 1989).

In a study (Ferrari, 1991) procrastinators claimed lower self-esteem, greater public self consciousness and social anxiety, and a stronger tendency toward self-handicapping. It was also found that female procrastinators are anxious individuals who actively avoid evaluative information, particularly if there is an audience.

## Self-awareness

An individual is said to be in a state of self-awareness when he focuses his attention toward the self i.e., on his own thoughts, feelings, or behavior (Scheier, 1976). Self-awareness can be induced in a variety of ways e.g., a person can be exposed to his tape-recorded voice (Wicklund & Duval, 1971), to his image in a mirror (Ickes, Wicklund & Ferris, 1973), to a salient audience which makes frequent eye contact with him (Scheier, Fenigstein & Buss, 1974). Self-awareness has consequences for a wide range of behavior, for example, recent studies have shown that heightened self-awareness results in increased agreement with a positive reference group (Wicklund & Duval, 1971), increased predecisional information seeking (Wicklund & Ickes, 1972), and decreased self-esteem (Ickes, 1973).

According to Feinberg (1966), self-analysis plays an important role in at least three ways: (a) increased managerial effectiveness and impact on others, (b) better personal relationship, (c) greater personal fulfillment. Fenigstein, Schein, and Buss (1975) and A.H. Buss (1980) elaborated self-awareness theory by suggesting that manipulations of focal attention differed to the extent to which public or private aspects of self were made salient. For e.g., one's image in a mirror has been shown to elicit behavior reflecting an awareness of more internal, private aspect of self (Baldwin & Molmas, 1987; Froming, Walker, & Lopyan, 1982; Gibbons et. al., 1979; Scheier & Carver, 1977, 1980), whereas one's image on T.V. or voice on tape is likely to elicit behavior reflecting an awareness of public aspect of self (Carver & Scheier, 1981). Hence we can say that the construct self awareness has two dimensions, (a) Private self-awareness (b) Public self-awareness.

Interactions between self-monitoring and self-awareness have been found in previous studies (Snyder and Monson 1975; Ickes Layden & Barnes, 1978), Webb

(1989) also suggested that high self-monitors are more responsive than low self-monitors to public self-awareness manipulations; low self-monitors, on the other hand, are more responsive than high self-monitors to manipulations of private self-awareness.

Dennis, (1991) suggested that managers in organizations to facilitate group processes should apply non-interference, non-aggression, awareness, self-awareness, interdependence and the fostering of intellectual independence. By following such practices managers can create an organizational climate in which respect and trust can grow naturally between management and employees and all the members of the organization can realize and use their personal power. May, (1990) suggested self-awareness as an important characteristic for managerial effectiveness. Apart from self-awareness, several other characteristics outlined for managerial effectiveness are (a) response to change, (b) sense of responsibility, (c) impact, (d) conceptualizing, (e) multiple perspective, (f) prediction, (g) respect and responsiveness, and (h) communicating. Johnson, (1990) found that organizational development practices in diverse settings (i.e., different cultures and values) may contribute to self-awareness and growth of the organization.

Self-awareness, as a self motivational technique had been suggested for personal development and organizational effectiveness by Holder, Robert, J. (1990). Kagalnyak and Yashchishin (1989) also suggested that increasing self-awareness and communication skills might lead to personal effectiveness.

### Self-consciousness

Self-consciousness has been described as a personality disposition to focus inward. The consistent tendency of persons to direct attention inward or outward is the trait of self-consciousness. Self-awareness refers to a state: the existence of self



directed attention, as a result of either transient situational variables, chronic dispositions, or both (Fenigstein, Scheier & Buss, 1975). Fenigstein, Scheier and Buss (1975) devised a 23 item scale to measure individual differences in self-consciousness. A factor analysis of the scale revealed that self-consciousness has two components: public and private. Public self-consciousness involves awareness of self as a social object. A person high on the trait of public self-consciousness is concerned with his social appearance and with the impressions he makes on others. A private self-consciousness person is self reflective and generally attentive to his inner thoughts, feelings and motives. Lamphere, and Leary, (1990) found that public and private selves are best conceptualized as bidimensional rather than as opposite poles of a single continuum, thus supporting James (1890) essential distinction between public and private self-processes.

Sheppard and Arkin (1989) explored the role of individual differences in self-presentational concerns with a public form of self-handicapping. The results of the study showed that the males were handicapped more than the females. And high public self-consciousness subjects were handicapped more than their low public self-consciousness counterparts, but only when they confronted a test characterized as valid. Study on private self-consciousness and fear of negative evaluation (Monfries; Kafer, 1994) suggests that for some socially anxious people who are privately shy, the locus of their anxiety is cognitive, whereas for others who are more concerned with performance, the locus is behavioral.

Kluger, and Adler (1993) studied the effects of feedback provided by a persons vs that provided by a computer on performance-motivation and feedback seeking. Results indicate that public and private self-consciousness and self esteem interacted with person-mediated feedback to negatively affect performance. The role

of private self-consciousness was seen in terms of a rating of personal values (Shrum, and McCarty, 1992). Results supported the hypothesis that individual differences exist to the extent to which respondents differentiated among values using a rating procedure. The findings suggested that persons higher in private self-consciousness have a better-articulated self-scheme and are more aware of internal dispositions.

Abrams, and Brown, (1989) on their study of self-consciousness and social identity found that individuals with higher private self-consciousness behave more in terms of their social identity, display ingroup loyalty, and presence in group distinctiveness, whereas individuals with higher public self-consciousness tend to behave in a more socially desirable way.

### Self-handicapping

The term self-handicapping was given by Jones and Berglas (1978). According to them self-handicapping is a strategic creation of obstacles to successful performance. Infact, self-handicapping is the use of attributional principles to manage one's image concerning the presence or absence of ability (e.g., Arkin & Baumgardner, 1985; Jones & Berglas, 1978). The term refers to an individual's attempt to reduce a threat to esteem by actively seeking or creating inhibitory conditions that interfere with performance, thus providing a persuasive causal explanation for potential failure (or let the stage for individuals to accept personal credit for success, Sheppard & Arkin, 1989).

In past researches numerous behavior have been named as potential self-handicaps for e.g., drug and alcohol consumption (Berglas & Jones, 1978, Higgins & Harris, 1988, Tucker, Vuchinich & Sobel, 1981), lack of practice (Rhodewalt, 1984), reduced effort (Pyszczynski & Greenberg, 1983, Rhodewalt & Fairfield, 1991)

unfavorable performance settings (Rhodewalt & Davison, 1986; Shappard & Arkin, 1989), anxiety (Smith, Snyder, & Handelsman, 1982), traumatic life events (DeGree & Snyder, 1985) and symptom reports (Mayerson & Rhodewalt, 1988, Smith, Snyder, & Perkins, 1983).

Past researches have also investigated the conditions precipitating self-handicapping. Several individual difference variables including sex (Berglas & Jones, 1978; Rhodewalt & Davidson, 1984; Shepperd & Arkin, 1986), public self-consciousness (Fenigstein 1989), social anxiety (Shepperd et. al. 1986), uncertain self-esteem (Harris & Snyder, 1986), Snyder & Smith 1982), test anxiety (Harris, 1986), self-presentational concerns (Kolditz Karbin, 1982), uncertainty about one's ability (Berglas & Jones, 1978), are the conditions found to trigger the enhancement of self-handicapping. Apart from this, public performance circumstances (Kolditz & Arkin, 1982; Shepperd, 1986), task importance (Rhodewalt, Saltzman, & Wittmer, 1984, Shepperd and Arkin, 1987), success feedback (Berglar & Jones, 1978; Kalditz & Arkin 1982; Tucker, Vulchinich, & Sobell, 1981) have also been investigated to define the conditions of self-handicapping and explaining its specific motivational basis.

It is seen that there are individual differences in the tendency to employ self-handicap. Individuals who score high on self-handicapping scale (Jones & Rhodewalt, 1982) have an inclination to make excuses and handicaps in order to protect their self-esteem (Rhodewalt, 1990), for e.g., it has been found that high self-handicappers will withdraw effort when uncertain about their ability to perform successfully (Rhodewalt & Fair child, Rhodewalt, 1984).

Rhodewalt (1994) in his study found the high self-handicappers claimed for performance goals than low self-handicappers (they believed that ability is innate and

thus can only be demonstrated) whereas how self-handicappers held a more incremented view of ability traits and claimed for learning goals (increasing competence).

It has been found that public self-consciousness is related to self-handicapping. Studies have shown that subjects are more inclined to handicap an upcoming performance if the handicap they choose is public (as it can be explained to others for poor performance) rather than when the handicap is private (known only to performer), (Arkin & Baumgardner, 1985).

Rhodewalt, Morf, Hazlett and Fairfield (1991) found that individuals with low esteem and low self-handicapping tendency attribute negative feedback to internals and that self-handicaps in fact protect one's self-esteem from failure and enhance it after success.

Nurmi (1993) suggested that under-achievement among individuals is caused by the use of self-handicapping strategy.

### Self-limiting

The term self-limiting connotes the tendency of individuals to withdraw from actively participating or contributing as fully as they might in a group setting. This variable has been studied under various notions, such as, "group think" (Jains, 1971, 1972), "Abilene paradox" (Harvey 1974), "social loafing" (Latane, Williams & Markins, 1979; Harkins, Latane, Williams, 1980; Welden & Gargone, 1984) and the "free-rider theory" (Olson, 1965, Stigler, 1974; Albanese & VanFleet, 1985). Group think (Janis, 1971, 1972) asserts that individuals in a cohesive group when engaged in concurrence-seeking behavior tend to ignore the realistic approach for results and stop making efforts to think critically. The Abilene paradox (Harney, 1974), asserts that individuals in a group setting often follow the course of action which is contradictory

to their views. However, they fail to communicate their beliefs and thus go along with the contradictory views. Latane (1979) suggests that in social loafing, people tend to work less; that is, they reduce their contribution and effort in group. This tendency to contribute less has also been referred to as the "free riding tendency" in which individuals refuse to participate fully, and are ready to share the benefits but not the costs (Olson, 1965).

Veiga (1991) proposed six conditions which precipitate the self-limiting behavior. (a) an indifferent group climate, (b) an unimportant or meaningless task, (c) low task mastery expectations, (d) the presence of a highly qualified member (e) the presence of a persuasive member, and (f) pressures to conform. A study by Charles, (1988) also confirms the social loafing theory. In his findings results suggest that social loafing is not restricted to tasks that are seen as unimportant, that lack intrinsic interest, that do not involve competition, or that are performed with strangers. It is suggested that members of an established team performing an intrinsically motivating task are susceptible to tendencies to economize their efforts in groups. In a study by Latane (1979) it was found that "Individual Effort" (IE) decreased as group size increased. The decrease in IE was due to a faulty coordination of group efforts.

Zaccaro, (1984) suggested that task attractiveness moderated social loafing. Social loafing is high in the low task attractiveness conditions, whereas in high task attractiveness a social enhancement effect has been found. In a similar finding by Harkins & Petty (1982) social loafing was reduced when subjects perceived their contribution as a unique and challenging one to group effort even though their contributions remained unidentifiable. Studies by Atoum and Farah, (1993), Singh and Singh, (1989) depict the same. Task structure and teammate competence have

also been found affecting social loafing. Unstructured task and least proficient teammate exhibited a loafing effect in a study by Hardy and Crace (1991).

Kerr and Stanfel, (1993) in their study of leader role schemata and member motivation in task groups found that in the case of group members occupying the minimal leader role, it did not attenuate the motivation. However, occupying the minimal non-leader role did affect the task motivation, showing the social loafing affect by subjects when some one else in the group had been selected as a group leader. Price, (1993) in his study did not find any performance differences among his subjects both in collective and coactive working conditions unless the motivational/arousal levels of the subjects were reduced. Traditional loafing differences were found between collective and coactive conditions after reduced arousal level of the subjects. Shepperd (1993) suggests that low productivity is characterized as a problem of low motivation arising when individuals perceive no value in contributing, perceive no contingency between their contributions and achieving a desirable outcome, or perceive the costs of contributing to be excessive. He suggested solutions to low productivity as, (a) providing incentive for contributing, (b) making contributions indispensable, and (c) decreasing the cost of contribution.

Kohler (1926, 1927) found his research findings on individual and group performance inconsistent with the social loafing theory, or Ringlemann effect. It was asserted that the Ringlemann effect ignores the increment in group performance through systematic variation of individual performance rates within the group. Witte (1989) reviewed the Kohler's work and supported his findings. Another study by Bartis, Szamanski, and Harkins (1988) showed that group performance was better than individual performance and no self-limiting behavior was seen in group

performance. Jackson and Williams (1985) suggest that subjects perform better individually on simple tasks but they perform better collectively on difficult tasks.

Various research findings suggest that self-evaluation of the task performance eliminates the self-limiting behavior (Goethals & Darley, 1987; Harkins, 1987; Harkins & Szymanski, 1988, Szymanski & Harkins, 1987; Latane & Harkins., 1979). Individual identity and task responsibility have also been found to be related to self-limiting behavior. In a study by Price (1987), unidentifiable individuals with sole task responsibility loafed more than unidentifiable individuals who shared task responsibility. Study by Yamaguchi, Okamoto, and Oka (1985) reported the same phenomena.

### Self-monitoring

Self-monitoring refers to an individual's ability to adjust his or her behavior to external situation factors. Self-monitoring individuals act in ways that are highly sensitive to situational cues and seek to promote a desirable public image. They show striking contradictions between their public experience and private self. Low self-monitors can't disguise themselves this way. They exhibit their true dispositions and attitudes (Michael, 1993). High self-monitors tend to pay closer attention to the behavior of others and are more capable of conforming than are low self-monitors (Snyder, 1987). The theory of self monitoring asserts (Snyder, 1974, 1979a, 1979b) that individuals differ to the extent to which their self-presentation fits the demands of the immediate social situation. However, self-monitors are thought to use situational cues not merely as information defining the limits of socially approved behavior, but as information that will enable them to shrewdly and pragmatically modify their social images in order to make the most of each interpersonal encounter

while advancing their own ends. The prototypical self-monitor is thus described as a consummately skilled impression manager.

Michael (1993) found a strong relationship among the variables of job satisfaction, organizational commitment, turnover intentions with high and low self-monitors. Prater (1992) from his findings suggested that self-monitoring may be used to improve on task behavior and performance of an individual. Ellis (1990) sought relationship between self-monitoring and leader emergence in work groups. He found that high self-monitoring behavior is related to leader emergence for males but not for females. Findings also revealed that high self-monitors were more adaptive in their behavior than low self-monitors. Further, the relationship between self-monitoring and leader emergence was found to be stronger for a task providing minimal feedback on the task competence of group members.

Kilduff, Martin and Day, David-V (1994) in their study found that high self-monitors in comparison to low self-monitors were more likely to change employers, move locations, and achieve cross-company promotions. And those who did not change employers obtained more internal promotions. In an another study by Verbeke, William (1994), results suggest that self-monitoring is a predictor of good performance. Mag, Reid, & DiGangi, (1993) also found that self-monitoring led to improved productivity and accuracy on task behavior.

Relationship between self-monitoring behavior and individual's other personality characteristics have also been examined. Howells (1993) examined personality characteristics associated with high and low scorers on the self-monitoring scale (SMS). Results indicated that high SMS scorers had more positive interpersonal characteristics than did low SMS scorers. Further high self-monitors were rated as more desirable than low self-monitors. In another study by Lassk (1992),



expressiveness, instrumentality and modifying behavior distinguished high performing managers, while sensitivity did not. Lamphere and Leary (1990) found self-monitoring to be associated primarily with the public self-consciousness. Apart from the above mentioned studies, W. James (1890); Kirchmeyer, (1990); Carson, (1993); Salvini, (1989) also studied the relationship between certain personality traits and self-monitoring.

Deluga, (1991) examined the relationship between self-monitoring and upward influence. He found that increasing levels of self-monitoring were associated with effectiveness in influencing the supervisor. Ayman, Roy and Chemers, Martin, M. (1991) studied the effect of "leadership match" (through Fiedler & Chemers' Leader Match versions of the contingency model measures & Snyder's self-monitoring scale) on subordinate satisfaction. Self-monitoring was found to be moderating the effect of the "match" for work satisfaction. The performance of the leaders who were high self-monitors did not conform to the contingency model predictions, whereas the performance of the low self-monitor leaders did.

Schnake, (1991) proposed that self-monitoring is directly related to organizational citizenship behavior. Ashford and Tsui (1991) studied the self-monitoring behavior a self-regulation strategy in terms of active feedback seeking. Results indicated that seeking negative feedback enhanced managers' overall effectiveness, seeking positive feedback, in contrast, decreased managers' effectiveness. Penley, (1991) linked the self-monitoring strategy as one of the communication abilities, with managerial performance. They further found that female managers provided lower self-reports of communication skills than male managers. In a study by Pressley, Michael and Ghatala, Elizabeth (1990), it was seen that self-monitoring, even by skilled adults, is often far from optimal and that poor

monitoring is a factor contributing to many thinking, learning and performance failures. In another study by Watson and Behnke (1990) self-monitoring characteristics were found to be predicting the performance of a leaderless group.

### Values

The term 'value' has been defined in multiple ways. Kluckhohn (1951) defined values as conceptions of what is desirable, held by either individuals or groups that influence the ways people select action and evaluate events. Some (England, 1967; England & Lee, 1974) have defined values through the meaning attached by individuals to a specific set of concepts. Others (Blood, 1969; Rosenberg 1957; Searls, Brauch, & Miskiminis, 1974; Wollock, Goodale, Wijting, & Smith, 1971) have defined it in terms of Protestant work ethic. Still others viewed it as the importance attached to jobs in general (Kilpatrick, Cummings & Jennings, 1964; Super, 1962). In another definition value has been defined as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (Ropeach, 1973, p. 5).

More recently, Schwartz and Bilsky (1987) have identified five features of values that are common to most of the definitions (e.g., Allport, 1961; Levy & Guttman, 1974; Maslow, 1959; Morris, 1956; Pepper, 1958; Ropeach, 1973; Scott, 1965). According to literature, values are (a) concepts or beliefs, (b) about desirable end-states or behaviors, (c) that transcend specific situations, (d) guide selection or evaluation of behavior and events, and (e) are ordered by relative importance (Schuartz & Bilsky, 1987).

The concept of value can be studied both as a dependent as well as independent variable (Rokeach, 1973). The impact of values as an independent variable on almost all kinds of behavior can be predicted, identified, and interpreted. On the other hand, as a dependent variable, values may be thought of as a result of all personal, social, and cultural forces that act upon a person throughout his lifetime. Values offer easy, stable, and effective guidance to an individual throughout his life (Mukerjee, 1964). According to Ali and Ali-Shakis (1985) the discovery of values is important because (a) There are institutions and values that are inimical to growth (Okun & Richardson, 1961), (b) Values influence not only individual behavior and the shift in public priorities but also corporate decision making and strategy (Guth & Tagiuri, 1965), and (c) governmental modernizations, investment programs, and other business opportunities are enhanced if they can be designed in accord with essential values.

The concept of "value" is important to study in managerial behavior. According to England and Lec (1974), personal values influence manager's (a) perception of situation and problem he faces, (b) decisions and solutions to problems, (c) interpersonal relationships, (d) perception of individual and organizational success and achievement (e) ethical behavior, (f) perception of organizational pressure and goals, (g) managerial performance. Impact of personal values on managerial behavior continues to generate attention from practitioners (e.g. Harman & Jacobs, 1985; Peters & Waterman 1982; Siebert & Proctor, 1984) and academic alike (e.g. Connor & Becker, 1975; England, 1967; Posner & Munson, 1979; Rokeach, 1973). The reason for this is that values are the core of our behavior. Some of the most critical decisions a manager makes involve personal values. At a meta level, values are the bedrock of an organization's culture (Deal & Kennedy, 1982). They provide

guidelines as to how employers can expect to be treated and in turn, are expected to behave. The importance of value is that once internalized it becomes, consciously or subconsciously, a standard criteria for guiding one's actions. Thus the study of the managers' values is fundamental to the study of managing. Some evidence exists that values are also extremely important for understanding effective managerial behavior (Flowers, et. al. 1975).

A number of studies have been undertaken to discover the values that managers actually espouse. The most influential theory is based upon the thinking of Spranger (1924), who defined six types of value-orientation (a) the theoretical man, (b) the economic man, (c) the aesthetic man, (d) the social man, (e) the political man, and (f) the religious man. Guth and Tagiuri (1965) studied the expressed values of 653 executives and concluded that managers value more highly economic, theoretical and political ends than religious, aesthetic and social ones. Additional support is evidenced in the studies of England (1967) consistent with the findings of others, his results bore out the relative importance of programmatic values as description of business managers. Further England, Dhingra and Agarwal (1974) found that American and Japanese managers tend to hold pragmatic values whereas Indian managers were less pragmatic and more realistic. Indian managers emphasized equity, fairness and the overall good of the work force. Palmer, Veigor and Vora (1981) had similar findings in their study. They suggested that Indian managers held altruistic values in decision making whereas American managers placed emphasis on pragmatic values while making decisions. Palmer, Veiga and Vora (1981) further concluded that there is no gender difference in values and decision making. Dubin, Chanpoux and Porter (1975) found a strong relationship between work values and organizational commitment. Kidron (1978) extended their findings by suggesting that

work values are related more to moral commitment than calculative commitment. Amsa and Puneekar (1985) suggested that socialization causes commitment values and these values in turn cause 'work performance'.

Pandey and Tiwari (1979) found a relationship between achievement values of entrepreneurs and locus of control. Internals were found to be high on achievement values. It has been found that managerial value system differs across sectors of enterprise, region of childhood, social class background, income, educational level, management level, and size of the company (Ali & Ali Shakis, 1985).

The value patterns of effective and ineffective employees within various organizations are found to be different (Brunson, 1970; Kashefi - Zihaji, 1970; Sikula, 1971). Values have been found to be significantly related to organizational effectiveness (Learned & Katz, 1959). Wiener (1988) noted that a typology of shared value systems based on the content (functional - elitist) and source (traditional charismatic leadership) of values permits a contingency of a culture as well as the contributions culture makes to organizational effectiveness. It has also been suggested that an employee's performance and satisfaction are likely to be higher if her / his values fit well with the organization (Robbins, 1993).

### Work Ethic

The concept of work ethic has its roots in work values. In English speaking countries, work values are, for the most part, discussed under the notion of "Protestant Work Ethic" (PWE), commonly called as "Work Ethic" (Rose, 1985). In the form of a belief that work striving can bring material success, the work ethic received wide validation during the rise of the USA to world economy and hegemony (Rose, 1985, p. 91). The term 'Protestant ethic' was coined by the German economic sociologist, Weber (1904-1905/1958). The Protestant ethic was a set of beliefs that

counselled "secular asceticism" - the methodological, rational subjection of human impulse and desire to God's will through "restless, continuous, systematic work in a worldly calling" (Weber, 1904-1905 / 1958, p. 172).

In psychology, the PWE is generally interpreted as a dispositional variable characterized by a belief in the importance of hard work, rationality, and frugality and which acts as a defense against sloth, sensuality, and religious doubt (Mirels & Garrett, 1971). The term is operationalized as involving personal characteristics such as working hard, doing best, and taking responsibility (Blood, 1969; Hulin & Blood, 1968). The core element of work ethic has been described by Rose (1985) as an internalized drive to work effectively and to postpone self-gratification. In short, work ethic can be described as an orientation towards work which highlights devotion to hard work, avoidance of idleness, waste and immediate rewards in any form, conservation of resources and savings of surplus wealth.

Work values and work ethics, these terms have also been used interchangeably. Motlaz (1986) referred work values as to what an individual considers desirable or important in work. Work values have also been classified as intrinsic and extrinsic (Elizur, 1984). In the present study also values were studied in context of personal values, work values and work ethic. The research findings have shown that the content of value and work ethics is related to organizationally relevant variables.

Research findings show work values to be related to internal locus of control (Furnham & Rose, 1987; Mirels & Garrett, 1971; Singh & Sinha, 1988). The Origin of work values have been presumed in an individual's need by several researchers (Lofquist & Davis, 1978; Roe, 1956).

Iris and Barrett (1972) argued that work is viewed as more important when the working conditions are good. The differences in perceived environment have been

found to be related to differences in job attitudes (Newman, 1977). It was found that relationships between different sets of organizational climate components and different aspects of satisfaction were moderated by the work values held by the employees (Margulies, 1969). Greenberg (1977, 1978, 1979) conducted researches to discover the relationship between Protestant work ethic and behaviors. Work values have been found to be related to task behavior (Merrens & Garrett, 1975).

Some authors have suggested the relationship among age, education level, income, social-status and background, organization size and managerial experience with work value systems of managers (Ali, 1982; England, et al., 1974; Flowers, Hughes, Myers & Myers, 1975; Goodale, 1973; Taylor & Thompson, 1976; Furnhaur & Muhiudeen, 1984).

Values and work attitudes have been found to be a predictor of managerial effectiveness (Brown, 1976; Munson & Posner, 1980; Whitely & England, 1980). Johnson et al. (1984) suggested that job performance can be predicted from work related attitudes. Work values have also been found to be related to job satisfaction (Aldag & Brief, 1975; Blood, 1969; Goodale, 1973).

### **Contingency Variables**

#### **Job Characteristics**

It is a well known fact that jobs are different and some are more interesting and challenging than others. These facts have not gone unnoticed by OB researchers and they have responded by developing a number of task characteristics theories. There are at least seven different task characteristics theories (Steers & Mowday, 1977) and there is a significant amount of overlap between them (Gardner & Cummings, 1988). Among the task characteristics theories the most important theories are (a) requisite

task attributes theory, (b) the job characteristics model, and (c) the social information processing model.

The task characteristics approach began with the pioneering work of Turner and Lawrence in the mid - 1960s. They predicted that employees would prefer complex and challenging jobs as such jobs would increase satisfaction and result in lower absence rates. They defined job complexity in terms of six task characteristics: (1) variety; (2) autonomy; (3) responsibility; (4) knowledge and skill; (5) required social interaction; and (6) optional social interaction. In the view of Turner and Lawrence, the higher a job scored on these characteristics, the more complex it was (1965).

Turner and Lawrence's requisite task attributes theory laid the foundation for "job characteristics model" proposed by Hackman and Oldham (1976). According to this model job can be described in terms of five core job dimensions, (1) skill variety; (2) task identity; (3) task significance; (4) autonomy; and (5) feedback. These core dimensions of job can be combined into a single predictive index, called the motivating potential score (MPS). Jobs that are high on motivation potential must be high on at least one of the three factors that lead to experienced meaningfulness, and they must be high on both autonomy and feedback, (Hackman & Oldham, 1976). The job characteristics model has been well researched. Most of the evidence supports the general framework of the theory - that is, there is a multiple set of job characteristics and these characteristics impact behavioral outcomes (Miner, 1980; Loher, Noe, Moeller & Fitzgerald, 1985; Glick, Jenkins, Jr. & Gupta, 1986; Fried & Ferris, 1987; Zaccaro & Stone, 1988).

The third task characteristics theory is about social information processing (SIP) model. The SIP model argues that employees adopt attitudes and behaviors in response to the social cues provided by others with whom they have contact. These



others can be co-workers, supervisors, friends, family members, or customers (Salancik & Pfeffer, 1978; Thomas & Griffin, 1989; Zalesny & Ford, 1990). A number of studies confirm the validity of the SIP model. For instance, it has been shown that employee motivation and satisfaction can be manipulated by such subtle actions as a co-worker or boss commenting on the existence or absence of job features like difficulty, challenge, and autonomy (Thomas & Griffin, 1983). Beehr, Walsh, and Taber (1976) suggested that undesirable job characteristics could be related to stress phenomena.

Job characteristics and job satisfaction were found to be related positively in many studies (Caldwell & O'Reilly, 1982; Griffin, 1982; Oldham, 1976; Orpen, 1984; Umstot, Bell, & Mitchell, 1978). Oldham, Hackman, and Pearce (1976) found that employees who were satisfied with pay, job security, coworkers, and supervisors, responded more positively to enriched jobs than the employees who were not satisfied with these factors. A number of studies suggested that task characteristics namely, role ambiguity (Rizzo, House, & Lirtzman, 1970; Hayness, 1979; Abdel-Halim, 1981; Bedeian & Armenakis, 1981), skill variety, or complexity (Hackman & Oldham, 1975; Katz, 1978; Dewar & Werbel, 1979; Haynes, 1979; Abdel-Halim, 1981; Gerhart, 1987) have emerged as the strongest predictors of satisfaction. Other variables from this category of predictors that are found to affect job satisfaction are role conflict, task identity, and task significance (Rizo, House & Lirtzman, 1970; Hackman & Oldham, 1975; Katz, 1978; Haynes, 1979; Bedeian & Armenakis, 1981).

Littlepage (1991) tested Steiner's model of task characteristics on group performance. Results supported Steiner's model for the additive task but were not fully consistent with the model for the disjunctive task.

Griffin (1980) tested the model predicting the relationships among individual, task design, and leader behavior. Correlational analyses revealed significant relationships among variables and facets of satisfaction, but not productivity. Cross-legged correlational analysis also yielded some support for the model in terms of both satisfaction and productivity.

Studies on work schedule have shown that compressed work week (a four day week, with employees working ten hours a day) may positively affect productivity in situations in which the work process requires significant start up and shutdown periods (Calvasina & Boxx, 1975; Seybolt & Waddoups, 1987; Goodale & Aagaard, 1975). Flexitime (flexible work hours) have been found to reduce absenteeism, overtime expenses, hostility towards management, eliminate tardiness, and increase autonomy and responsibility at work, workers' productivity and satisfaction (Glueck, 1979; Ralston & Flangan, 1985; Ralston, et al., 1985; McGuire & Liro, 1986; Bernstein, 1988; Dalton & Mesch, 1990). King, Murray and Atkinson (1982) suggested that personality and job characteristics have strong, independent associations with a multidimensional job satisfaction index.

A number of researches on group effectiveness have shown that group effectiveness depends, to a great extent, on the specific nature of the group's task, as well as on the type of decision making procedures used, and on the nature of a group's composition (Hackman, 1987; Hackman & Morris, 1975; Hoffman, 1979; Mason & Mitroff, 1981; McGrath, 1984; Nemiroff, 1976; Sumpf, 1979). Several writers have argued that the nature of the group's task may be a factor that moderates the relationship between a group's behavior and its effectiveness (Hackman, 1987; Hackman & Morris, 1975; McGrath, 1984; Poole & Hirokawa, 1986; Steiner, 1972; Milliken & Vollrath, 1991). That is the "kinds of behaviors (that) serve to increase or

decrease task effectiveness depend, often to a substantial extent, on the nature of the task itself (Hackman & Morris, 1975, p. 91).

It has been found that job characteristics often lead to improved effectiveness (Ford, 1969; Locke, Sirota, & Wolfson, 1976; Pouri, Robertson & Herzberg, 1969). However, in some studies it was found that job redesign sometimes fails to create positive outcomes (Frank & Hackman, 1975; Lawler, Hackman & Kaufman, 1973).

### Culture and Climate

The idea that groups and organizations have culture or climate has been acknowledged since Lewin's (1939) research on creating social climate (authoritarian, democratic, and laissez-faire).

Culture and Climate are integral parts of an organization. Organizational culture refers to a system of shared meaning held by members that distinguishes the organization from other organizations (Schein, 1985; Becker, 1982). Organizational culture provides employees with a clear understanding of the way things are done in that organization. Dessler (1976) provides three different approaches to define culture, (a) structural, (b) subjective, and (c) synthetic.

The structural approaches define culture as a set of enduring characteristics which describe an organization, differentiate it from other organizations and affect the behavior of the human resource in it. The subjective approaches analyze culture from the standpoint of the "feel" that people have for the organization. The synthetic approaches stress both structural and subjective elements. According to this view, organizational culture is the perceived, subjective influence of the formal system, the informal 'style' of managers and other significant environmental factors on the attitudes, beliefs, values and motivation of people in a particular organization (Litwin & Stringer, 1968). Thus, a strong and healthy culture would be where organization can

have growth and active changefulness with innovativeness, autonomy, adaptation and problem solving adequacy (Beckhard, 1969). This depends on leadership skill, trust, structure, reward, consideration, warmth, support and openness. Organizational culture, therefore, can be defined as a set of attributes which are perceived by the individuals and which are deemed to have an impact on the willingness of the individual to perform at his best (Dwivedi, 1995). Recent research suggests that there are ten primary characteristics of organizational culture, namely (1) member identity; (2) Group emphasis; (3) People focus; (4) Unit integration; (5) Control; (6) Risk tolerance; (7) Reward criteria; (8) Conflict tolerance; (9) Means-ends orientation; (10) Open system focus (Hofstede, Neuijen, Ohayv, & Sanders, 1990; O'Reilly-III, Chantman, & Chaldwell, 1991).

Culture performs a number of functions within an organization (Robbins, 1993). It creates a distinction between one organization and another, it conveys a sense of identity for role incumbents, it facilitates the generation of commitment, and it enhances social system stability. Finally, culture serves as a sense-making and control mechanism that guides and shapes the attitudes and behavior of employees.

Organizational climate is the psychological "feel" of a work place or an organizational unit and the organizational norms that seem to correspond to this feel. As a molar construct, organizational climate may be a snapshot of institutionalized values and practices, and its determinants, state, and consequences may provide institutionalization (Pandey, 1988). Various researchers have reviewed the climate literature (Campbell, 1970; Hellriegel & Slocum, 1974; James & Jones, 1974; Jones & James, 1979; Joyce & Slocum, 1979; Naylor, Pritchard, & Ligen, 1980; Payne & Pugh, 1976; Powell & Butterfield, 1978; Schneider, 1975, 1983; Woodman &

King, 1978) and have presented good critiques of the conceptualization and measurement of the climate construct.

Initially, climate had been defined as an attribute of an organization as a whole. One of the earliest definitions of organizational climate was proposed by Forehand and Gilmer (1964). Forehand and Gilmer defined organizational climate as "the set of characteristics that describe an organization and that (a) distinguish the organization from other organizations, (b) are relatively enduring over time, and (c) influence the behavior of people in the organization (p. 362)". Tagiuri and Litwin (1960) used the terms climate and organizational climate to refer to the idea of perceived environmental quality.

James and Jones (1974) differentiated between climate, as an organizational attribute, and climate, as an individual attribute. Thus organizational climate refers to organizational attributes, main effects, or stimuli, whereas psychological climate refers to individual attributes, namely the intervening psychological process whereby the individual translates the interaction between perceived organizational attributes and individual characteristics into a set of expectancies, attitudes, behavior etc. (James & Jones, 1974, p. 1110). Psychological climates are the meanings an individual attaches to a work context, while organizational climates are the summated or averaged meanings that people attach to a particular feature of the settings (Schneider & Reichers, 1983, p. 21). Field and Abelson (1982) explained that organizational and group climate occur when there is consensus among many individual perceptions within the particular unit under analysis.

Hellriegel and Slocum (1974) defined organizational climate in terms of "subsystems" climate. Howe (1977) used the term "group" climate, and Powell and Butterfield (1978) used the term "subunit" climate for subsystems climate. Findings

regarding the dimensions of climate (Campbell , 1970; Hemphill, 1956; Litwin & Stringer, 1968; Payne & Pugh, 1976) have shown that climate is a multidimensional concept. A number of concepts such as equity (James, 1982); open-mindedness (Payne & Mansfield, 1973); and centrality (Joyce & Slocum, 1979) that were originally independent have been recognized as climate dimensions. Schneider (1975) explained that climates are composed of many practices and procedures occurring in the situation, and since there are a number of situations in each organization, therefore there may be any number of dimensions of climate.

It was argued that organizational culture research is to the 1980s and 1990s what organizational climate research was to the 1960s and 1970s (Hunt, 1991, p. 228). It is clear from the above mentioned statements that both concepts have numerous definitions and have been operationalized in a number of different ways. Each is seen as a kind of bridge between the individual and the organization. In the 1980, as interest waned in climate, interest in culture seemed to increase (Hunt, 1991, p. 228). Perhaps the apogee for the early climate studies was reached in the 1970s with extensive reviews (e.g., Hellriegel & Slocum, 1974; James & Jones, 1974; Joyce & Slocum, 1979; Olmstead, 1973; Payne & Pugh, 1976; Schneider, 1975).

Now, however, climate seems to be experiencing a resurgence. In one form it is treated as synonymous with culture (e.g., Gerdon, 1985; Lippitt, Largseth & Mossop, 1985). In a more enlightened form, climate is treated in combination with culture (e.g., Ashforth, 1985; Rentsch, 1989; Schneider, 1985, 1987; Schneider & Rentsch, 1988).

Schneider and Rentsch have gone a long way in using the two concepts to complement each other. Schneider and Rentsch (1988) consider climate to be the message that organizational members receive from organizational routines (policies, practices, procedures, etc.) and the reward system (supports, expectations,

and various kinds of rewards). They define culture as the values, and norms underlying such organizational routines and rewards, in addition to the shared assumptions about the organizational life reflected in these norms and values.

The perceptions of climate have been found to be influenced by the hierarchical level of role incumbents to which they belong in the organization (Payne & Mansfield, 1973; Schneider & Bartlett, 1970; Schneider & Hall, 1972; Schneider & Snyder 1975). It has been found that salary was more strongly related to climate perceptions than was job grade (Payne & Mansfield, 1973). However, a nonsignificant relationship was found between the organizational climate and job tenure (Komrraju, 1981).

Sinha and Kumar (1985) found that leadership styles had specific relationships with different clusters of climate variables. Leadership behavior and the quality of work group interaction have been found to be related to organizational climate (Franklin, 1975; Litwin & Stringer, 1968). Differences in the perceptions of climate have been found to be related to the leadership style of managers (Meyer, 1968). Sinha, M. (1983) visualized organizational climate and leadership style to be mutually interactive variables which are affected by the organizational structure and processes, and in turn affect job attitudes, which in turn may affect productivity, etc.

Singh and Das (1978) found that the quality of organizational culture had a significant impact on commitment to work. A positive organizational culture appeared to satisfy higher order needs through more autonomy, achievement opportunities and self-actualization, and was found to produce a higher level of commitment to work. Singhal and Sood (1981) studied the climate in hospitals and the occupational commitment of nurses. The study was undertaken in private and public hospitals. The two groups did not differ in the level of occupational commitment, but there was a significant relationship between hospital environment and occupational commitment.

Dubin, Champoux, and Porter (1975) found a strong relationship between central life interests of workers and their commitment to organizations. Pathak (1982) suggested a strong relationship between climate and job involvement.

Kets and Miller (1986) suggested that the personality of the top executive could influence strategies of centralized and decentralized firms only through the culture of the organization.

Buller and Bell, (1986), conducted a field experiment to examine the effects of team building and goal setting on the miners' productivity and strategy development. Results showed improvement in performance and strategy development, but more of these improvement occurred in goal setting than in the team building condition. Earley, (1990), examined process and outcome feedback as moderators of the relation of goal setting to performance. Results supported the hypothesis that both process and outcome feedback interact with goal setting to enhance performance.

In the past few years, a significant body of research has explored the role group goals play in team environment (Klein & Mulvey, 1995; Kelly, Martocchio, & Frink, 1994; Weingart, 1992; Weingart & Weldon, 1991; Weldon, Jehn, & Pradhan, 1991). The majority of researches indicate that group goals increase performance (Kelly, et al. 1994). Some researchers have suggested that individual goals increase group performance (Baumler, 1971; Kim & Hammer, 1976; Lawrence & Smith, 1955; Matsui, Kakuyama & Onglatco, 1987), while others have reported negative effects (Mitchell & Silver, 1990; Saavedra, Earley & Dyne, 1993). Mitchell and Silver (1990), and Savedra et al. (1973) proposed that the degree of interdependence in a group task is an important boundary condition on the goal setting-group performance relationship. Goal setting is to affect performance by increasing the individual's task directed effort (Locke & Latham, 1990).



Trust has been found a prerequisite to effective organizational process. In a distrustful situation, the quality of decision goes down, while in a trusting climate it improves substantially (McGregor, 1967). A study by Rosen and Jerdee (1977) shows that the level of trust determines the extent to which a superior is willing to involve the subordinates in participative decision making. A number of researchers (Haney, 1967; Lilico, 1972; Mellinger, 1956; Ziller, 1958; Read, 1959, 1962; Jennings & Zand, 1972; Likert, 1967; dyer, 1976; Gamson, 1968; Tyogis 1985; Bannister, 1986; Full, Brief & Barr, 1985; Jones, 1975; Dwivedi, 1983; Pareek, 1982; Sharma, 1989; Dwivedi, 1995) have discussed the role of trust as a variable of organizational culture in organizational dynamics. Likert (1967) provides broad research support to infer that organizational performance is a function of trust. Trust is a prerequisite to group effectiveness (Friedlander, 1970) and group loyalty (Likert, 1961). McGregor (1967) claimed that effective performance of a managerial team is a function of mutual trust and open communication amongst all the participants including the leader. Similar results were found in an Indian study by Sharma (1989).

Solomon (1986) compared the job characteristics and organizational climate in the public and private sectors and found that in comparison to public sector managers, private sector managers were much higher on perception that rewards were contingent on performance and the policies promoting efficiency were more prevalent in their organizations.

Chadha (1990), found that managers in private sectors were significantly different from managers in public sectors in terms of orientation, interpersonal relations, communication, supervision, decision making, managing problems, mistakes, conflicts and risk taking. Further, managers in private sectors were found to be more satisfied

than public sector managers on the aspects such as promotion, satisfaction with coworkers, satisfaction with supervision, and satisfaction with work.

Organizational climate has been found to be related to job performance (Friedlander & Greenberg, 1971; Pritchard & Karasick, 1973; Schneider, 1973; Schneider & Hall, 1972). Peterson (1975) found that the differences in the climate of organizations were due to differences in the technologies that organizations were using.

Kumar (1978) investigated the self-actualization need in Indian managers. He concluded that there was a negative relationship between self-actualization factors and climate dimensions. Mehta (1978b) described in detail the interrelationship between personal need, work motivation and climate.

Work related expectancies (i.e., effort--performance expectancy and performance--reward expectancy) have been found to affect the individual's motivation on performance (Locke, 1975; Muchinsky, 1977; House, Shapiro, & Wahba, 1974; Kovach, 1987; Waldman & Spongler, 1989). Latane, Williams, and Harkins (1979) contended that individuals working in groups often reduce their level of effort, due to reduced accountability. Williams, Nida, Bacca, and Latane (1989) found that individual effort on group activity increased when the identifiability of individual performance was high, and decreased when individual output was not identified.

Task motivation has been found as a critical input to group effectiveness (Gladstein, 1984; Hackman, 1987; Hackman & Oldham, 1976; Cummings, 1981; Bushe & Johnson, 1987). According to Kanungo & Wright (1983) the performance of managers is influenced by the levels of their work motivation and their job satisfaction. They further suggested that when there is a match between the job outcomes and the job expectations, the levels of job motivation and satisfaction tend to be higher.

Empirical evidences suggest that there exists a relationship between organizational climate and job satisfaction (Batlis, 1980; Carpenter, 1971; Downey, et al. 1975; Muchinsky, 1977; Payne, Fineman, & Wall, 1976; Srivastava & Pratap, 1984). Pratap & Srivastava (1983) examined the climate in sugar industries and found that a democratic climate had a positive impact on job satisfaction of employees. Similar findings have been reported by Kumar and Bohra (1979). Padaki (1982, 1983a, 1983b) suggested relationships between perceived organizational climate, perceived job characteristics, job satisfaction and organizational effectiveness. Although, it has been argued that perceptual measures of organizational climate may be redundant if taken up in conjunction with other attitudinal measures such as job satisfaction (Guion, 1973; James & Jones, 1974; Johannesson, 1973). Several studies have provided evidence that organizational climate and job satisfaction are not the same concepts (Downey, Hellriegel, Phelps, & Slocum, 1974; Schneider & Snyder, 1975). It has been suggested that partialling job satisfaction out of responses to an organizational climate questionnaire may improve the dimensionality of climate instruments (Schnake, 1983).

In the present study the investigator has conceptualized the construct of climate as reflections of work environment perceptions, that is psychological climate. Such a conceptualization was favored mainly due to three reasons. Firstly, owing to the perspective of social psychology within organizational behavior framework, an individual rather than the macro-level entity was given a preference. Secondly, apart from the aggregation of the individual scores, other methods were beyond the scope of the present study. Thirdly, it is the perceptions rather than objectivity that are presumed to be affecting human behavior from the psychological perspective. However, a macro concept named as facilitating organizational climate was included

in the study as part of another construct labeled as the management practices which would be described shortly.

### Management Practices.

The management of an organization performs several essential functions for the organization: planning and goal setting; structuring of the organizations; control, coordination, and direction of activities; motivation of staff; establishing the organization's legitimacy in society; acquisition of resources, etc. (Bakke, 1959; Fayol, 1949; Parsons, 1956). The distinctive way it performs these functions is its style of management. Thus, it could be said that management practices or style is the operating set of beliefs and norms about management by the decision makers in an organization. Management practices vary from organization to organization. A consensus on management style is unlikely in all but the smallest organizations. However, facing the organizational problems, challenges, and opportunities at work, some kind of agreement is likely to emerge among policy holders on basic beliefs about what are good or bad management practices. Their management style, when put into action, constitute the organization's strategy for survival and growth and thus shape the structure and functioning of the organization.

Research work in the western countries attests to the significance of management style for organizational effectiveness (Khandwalla, 1976-77; Likert, 1961; Ouchi, 1981; Peters & Waterman, 1982). There is a growing evidence in India too, that management style may be a very important determinant of organizational effectiveness (Fore, 1984; Khandwalla, 1982, 1983; Maheshwari, 1978; Paul, 1982; Singh, Kaul & Ahluwalia, 1983; Singh, Warrier & Das, 1979; Zahir & Manhas, 1980). Two style dimensions, the participativeness of management, and its dynamism, have especially been found to be linked with organizational effectiveness.

Singh, Warriar & Das (1979) found that democratic group leadership was correlated with group satisfaction, group productivity, and intragroup consensus. Moitra's study (1977) of participative decision-making at the plant level in the Durgapur Steel Plant, suggested that structured participation by union representatives in decision-making relating to plant level issues may improve industrial relations and decrease industrial conflict. In a study of workers' participation in management, Warriar and Vora (1984) found that the participation experiment had neither improved the quality of decision-making nor had secured the commitment of the workers, and seemed to have led to a sense of alienation among middle managers.

Sinha, A.K. (1980), studied the styles of the heads of five departments each from two universities. He reported that J.B.P. Sinha's (1980) nurturant task and participative styles both correlated with the perceived quality of education in the department. Jaggi (1978) sought to measure the extent to which Indian management practiced Likert's four styles (Likert, 1961), namely exploitative authoritative, benevolent authoritative, consultative authoritative, and participative. On an average, in the case of formal decision-making, benevolent authoritative style was practiced, whereas in most other management areas, a consultative style was practiced. Similar findings were reported by Ganguly (1977).

Studies have suggested that the participative management style may be conducive to organizational effectiveness. Its effectiveness may be greater when combined with a professional management style (Khandwalla, 1977). Khandwalla (1981) found an evidence to support the hypothesis of a positive synergy between participative and professionalist management orientations.

Now turning to leadership as a component of management, it could be said that "leadership is the process of influencing the activities of an individual or a group in efforts toward goal achievement in a given situation" (Hersey & Blanchard, 1985, p. 83). It follows from this definition that leadership process is a function of the leader, the follower, and other situational variables. Most of the researchers (e.g., Bass, 1960; Hall, 1972; Hollander & Julian, 1969) agree that leadership, in some way, involves the exercise of influence.

Nearly all of the research on leadership can be classified into two broad approaches (a) Trait approach, and (b) behavioral style approach. The trait approach emphasizes that leader possess certain physical or psychological traits on the basis of which they can be identified from non leaders (Giff, 1954; Mann, 1959; Stogdill, 1948, 1974; Bass, 1990). The behavioral approach emphasizes a leader's activities and behavior (Lewin, Lippit & White, 1939; Stogdill & Coons, 1957; Katz, 1950; Likert, 1961, 1967; Blake & Mouton, 1964, 1978; Argyris & Schon, 1974; Fiedler, 1967; House, 1971; Vroom & Yetton, 1973; Hersey & Blanchard, 1985; Yukl, 1971; Sinha, 1980).

Recently the concept of transformational leadership has emerged as an important concept. The contribution of Burns (1978) is important in developing the current transformationally oriented leadership thinking and the model developed by House (1977). According to Burns (1978), transformational leadership is a process where leaders and followers raise one another to higher levels of morality and motivation. Burns' definition of transformational leadership incorporates four factors, namely (a) charismatic leadership (share complete faith in the person), (b) inspirational leadership (communicates high performance expectations), (c) intellectual stimulation (enables subordinates to think about old problems in new

ways), (d) individualized consideration (gives personal attention to members who seem neglected). These factors portray the transformational leader in a form that Zalienile (1977) independently drew from clinical evidence. Studies by Posner and Kauzes (1988a); Sashkin (1988), and Sashkin and Burke (1988) reflect similar patterns of matching components constituting transformational leadership. Consistent with the view, Stivater and Yammarino (1989) found that transformational leaders are more likely to act emotionally and with feelings.

Hater and Bass (1988), and Yammarino and Bass (1989), reported that transformational leaders have much higher potential than transactional leaders. Haldman, Bas, and Einstein (1987) showed that the performance appraisals of the subordinates were higher if their leaders had been described as transformational. A study of MBA students by Seltzer (1989) has shown that charisma, individualized consideration and contingent reward reduce burn out and stress symptoms.

Peterson (1989) examined the effects of the MLQ charismatic leadership subscale in conjunction with other leadership-and work-related variables. It was found to have the most pronounced impact of all the independent variables on store effectiveness and even more strikingly on organizational commitment. Bass and his colleagues (1987) have presented the evidence suggesting that organizations with highly transformational upper-level leaders also tend to have more transformational leaders at lower level.

Singh and Bhandarkar (1990) in a study of five Indian transformational leaders could identify the significant desirable changes that were brought about by those leaders in the organizational culture after they took charge. The work of these researchers suggests that the transformational leader in a country like India should be an effective human relations leader, a good boundary manager, and should also

be good or effective in entrepreneurship, planning and stress management. The investigator studied the transformational leadership style as one of the variables of management practices.

Quality of work life has become increasingly popular as an "area" of research in the management world. The concept "Quality of work life" (QWL) is defined as the favorableness or unfavorableness of job environment for people (Davis, 1981). There has been a major growth in efforts to study the QWL (Davis & Cherns, 1975; Mackman & Suttle, 1977; Sinha, 1977; Nadler & Lawler 111, 1983; Emery & Emery 1974; Miller, 1977). Davis and Cherns (1973), equated a high QWL with the existence of a certain set of organizational conditions and practices, namely democratic management, enriched job, employees' involvement in their work, and safe working conditions, employee satisfaction, overall growth and development of employees.

Marks (1986) proposed that improved working conditions, greater opportunity for self-expression and self-development, increased productivity (in terms of quality and quantity), and cost reduction are all the outcomes of improved QWL. Ferris and Wagner (1985), and Yoger (1981) also mentioned savings in production costs, quality improvement, motivation and satisfaction as the outcomes of better QWL. Joseph (1978) found that the nature of work itself contributed most to the quality of work life. Satisfaction from supervision and pay were weakly associated with QWL.

It was asserted that most QWL practices seem to result in the following; (a) increased job satisfaction, feeling of personal growth, job involvement, and organizational commitment, (b) absenteeism, turnover and tardiness are strongly and positively affected, (c) mixed results exist with respect to productivity, and (d) create more flexible and skilled work force (Goodman, 1980, p. 489). Marks (1986)



found no effect of QWL on organizational commitment, job challenge, job autonomy or sense of personal responsibility for work. Boccialetti (1987) examined some unintended effect of a QWL effort in a plant and found that younger workers obtain more resources and recognition in comparison to older ones. Older workers suffer with negative effects (i.e., lost ground).

Singh and Maggu (1980) examined the congruence between employees' expectations about QWL and the actual situation in Indian organizations. It was reported that the actual QWL was considerably low whereas their expected QWL was high. All levels of managerial personnel perceived QWL as poor. Sayeed and Sinha (1981) in two contrasted organizations on QWL, examined the relationships between QWL and job satisfaction and performance. The findings revealed that in high as well as low QWL organizations the correlations were positive and significant between QWL dimensions and job satisfaction. However, low correlations were obtained between QWL and performance.

Thakur (1981) studied the impact of structural changes on QWL. It was found that a mere change in work content without making other changes in the work organization did not improve QWL. The relationship between QWL and the quality of life was examined by Sinha (1982). The obtained relationship was significantly positive, thereby indicating that irrespective of employees' background, QWL and quality of life were correlated.

Peterson and Tracy (1992) reported a test of joint problem solving model in a large telecommunication firm, as part of an over all assessment of the firm's quality of work life (QWL) and employee involvement committees. Results showed a strong evidence of the success of the joint committees as well as the support of the model with respect to the contribution of key climate and process variables.

Providing performance feedback may also be considered as management style. For many managers, few activities are more unpleasant than providing performance feedback to employees (Robbins, 1993). In fact, unless pressured by organizational policies and controls, managers are likely to ignore this responsibility (Meyer, 1991). According to Robbins (1993) there could be three reasons for this reluctance, (a) managers are often uncomfortable discussing performance weakness with employees, (b) many employees tend to become defensive when their weakness is pointed out, and (c) employees tend to have an inflated assessment of their own performance. Statistically speaking, half of all employees must be below-average performers. But the evidence indicates that the average employee's estimate of his or her own performance level generally falls around the seventy-fifth percentile (Bruke, 1972).

In a study by Earley, Northcraft, Lee, and Lituchy (1990), it was found that feedback leads to higher performance than does nonfeedback. Self-generated feedback, where the employee is able to monitor his or her own performance, has been shown to be a more powerful motivator than externally generated feedback (Ivancevich & McMohan, 1982).

The relationship between self-efficacy and feedback was examined by Bandura and Cervone (1986). They found that individuals high in self-efficacy seem to respond to negative feedback with increased effort and motivation, whereas those low in self-efficacy are likely to lessen their effort when given negative feedback.

In a study by Pearson (1991) it was reported that extraneous feedback had a significant influence on role ambiguity, motivation, job satisfaction, and productivity, and a number of the variable causal paths. Jones (1993), in their study of work group performance and feedback, found a significant improvement in overall performance in

the department receiving feedback. No improvement was found in a comparison department that did not receive feedback. Kraut (1972, 1973) reported favorable reactions for feedback as it helped in the self-development of employees.

Informational feedback has been shown in laboratory investigations to affect learning (Rhine, 1960), memory (Silen & Bragg, 1968a), and concept identification (Allen & Bragg, 1968b). Feedback which is primarily rewarding or punishing in impact also has been shown to affect skill learning and role behavior (cf., Bandura, 1971; Berger & Lambert, 1968; Walters & Parke, 1964). In the study by Sarbin and Allen (1968) reinforcing feedback for high status group members increased the level of participation of initially recalcitrant group members, and negative feedback tended to decrease the participation of members who initially were highly verbal. Studies by Levy (1995), Ashford and Cammings (1983), Fisher (1979), Meyer (1991), and Larson (1989) have shown that feedback is directly related to the employees' performance.

Another organization wide variable that affects all the employees is the reward system (Hackman, 1975). A number of studies have shown that pay (Hinrichs, 1969; Pritchard, Dunnette, & Jorgenson, 1972; Lawler, 1968; Vroom 1970), promotion (Bray, 1974; Campbell, 1970), recognition (House & Wigdor, 1967; Locke, 1973; Locke, et al. 1968; Herzberg, 1957) are considered as a part of the reward system. In view of McClelland (1961), money serves as a symbol for achievement. Hinrichs (1969) and Zedeck and Smith (1968) found that employees' judgments of a "just, meaningful raise" depended on the absolute amount of their present pay. Research by Ingham (1970) suggested that blue collar employees who choose to work in large organizations are motivated mainly by economic considerations, while those who

choose to work in smaller firms are more attracted by work variety and the informal social relationships.

Locke (1973) found recognition to be one of the most frequently mentioned events causing job satisfaction and dissatisfaction, especially among blue collar workers. Researchers using Herzberg's methodology found it to be one of the most frequently mentioned satisfiers, and also found it to be the fourth most frequently mentioned dissatisfiers (using people rather than incidents as the unit of analysis; summarized in House & Wigdor, 1967).

Employees are held responsible for increase or decrease in productivity. One of the reasons given for increased productivity is employees' motivation. Hence, strategies for motivation management must coordinate the various elements of human resource management into a unified program whose focus is to enhance employees' motivation to work; too often, managers have sacrificed equitable treatment for equality of treatment (Mofillan & Podsakoff, 1983). There are some popular theories of motivation which can explain how to use motivation management strategies. The theories can be classified as need theories such as by Maslow (1954), Herzberg (1966), and McClelland (1961); reinforcement theories such as one by Skinner (1957); expectancy theories such as by Lawler (1989); and goal setting theories such as by Waxley and Latham (1991).

All the theories of human motivation reveal a common driving principle, that is people do what they are rewarded for doing (Cooke, 1990). There is evidence that very high intrinsic motivation levels were strongly resistant to the detrimental impact of extrinsic rewards (Arnold, 1976). Even when a job is inherently interesting, there still exists a powerful norm for extrinsic payment (Staw, 1977).

Locke et al. (1980) looked at four methods of motivating employee performance: money, goal setting, participation in decision making, and redesigning jobs to give workers more challenge and responsibility. He found that average improvement from money was thirty percent; goal setting increased performance by sixteen percent; participation improved performance by less than one percent; and job redesign positively impacted performance by an average of seventeen percent.

Drucker (1954) proposed management by objectives (MBO) as a means of using goals to motivate people rather than to control them. Goal specificity, participative decision making, an explicit time period and performance feedback are important ingredients common to MBO programs (Carroll & Tosi, 1973; Rodgers & Hunter, 1991). A large number of studies have shown that MBO is a popular technique. Among large organizations in business and in the public sector probably half of them currently have a formal MBO program or had one at some time (Schuster & Kendall, 1974; Luthans, 1975; Ford et al. 1980; Ford, 1979).

Socialization or social facilitation provided by organization policy makers is also considered important for an employee's good performance. The process that adapts employees to the organization's culture is called socialization (Falcione & Wilson, 1988; Allen & Meyer, 1990; Miller & Jablin, 1991). Maanen and Schein (1977) suggest that success depends on the degree to which the aspiring member is socialized. Maanen and Schein (1979, pp. 236-252) presented six socialization tactics and hypothesized them to be significant in influencing newcomers' socialization process. They were as follows, (a) collective Vs. individual socialization (b) formal Vs. informal socialization (c) sequential Vs. random socialization (d) fixed Vs. variable socialization (e) investiture Vs. divestiture socialization.

Damanpour and Evans (1984) discussed the significance of organizational innovation in relation to employees' performance. Rosha (1968) suggested that organizations could cope with environmental changes and uncertainties not only by applying new technology, but also by successfully integrating technical or administrative changes into their organizational structure that improve the level of achievements of their goals. Innovations at organizational level may involve implementation of a new technical idea or a new administrative idea. The adoption of a new idea in an organization, regardless of the time of its adoption in the related organizational population is expected to result in an organizational change that might affect the performance of that organization (Damanpour & Evan, 1984).

Damanpour and Evans (1984), in their study, found that high performance libraries have a strong association between the rate of introduction of innovations in their social and technical systems. They further illustrated that discrepancy in the rate of introducing changes in the two systems would affect performance negatively. And the correlation between the administrative and technical innovation is positive across both low performance and high performance organizations. It was also found that administrative innovations could change an organization's climate, communication, interdepartmental relations, personal policies, and so on. In turn they provide new opportunities for the initiation and adoption of innovations in the technical system (Damanpour & Evans, 1984).

Quality Circle (QC) a management practice technique, is widely known and has enjoyed acceptance both in the American system as well as in the Japanese system of management. By working in QCs, the workers get opportunities to participate, make suggestion, and solve quality problems. Most of the good suggestions are implemented without difficulties, and this raises the self-esteem of the employees.

With the improvement of product quality, the reputation of the organization also improves, and generally the output also increases. Due to the acceptance, people enjoy working in QCs and thus more harmony is created within the company through QCs. That may be said to be secret of success that the QC concept enjoys.

The QC concept has been received with mixed feelings in the academic world. Munchus, III (1983); Rafaeli (1985); Lawler, III and Mohrman (1985) have both favored QC and also cautioned against its limitations. Despite some notes of caution, some of the studies do show the positive aspects of a QC program (e.g. Marks, Mirvis, Hackett, & Grady, Jr. 1986; Tang, Tollison, & Whiteside, 1987).

Since the QC programs have not acquired a full-blown and widely accepted status in India, the concept of QC was incorporated in the present study in a modified form, namely the quality concern. The objectives of quality circle were studied under the label quality concern. This was done under the assumption that the persons who endorse the quality circle objective would have a general concern for quality. The quality concern would be reflected in the QC objectives listed below. Self development, mutual development, waste reduction, job satisfaction, cost reduction, improvement in productivity, improvement in safety, getting into problem solving opportunities, team building, linking all people, involvement, improving participation, and reducing absenteeism and grievances (Ingel, 1985, pp. 28-31).

### **Group Characteristics Variables**

#### **Group Norms**

Norms are the standards that are shared by members of the group. According to Jackson (1966), group norms are informal rules of behavior that provide some order to group activities. While rarely written down and mostly unspoken, norms can

regulate group behavior with a consistency and a power than even formal organizational rules fail to engender. The set of norms operated by a group strongly influence the effective performance of a job (Arnold & Feldman, 1986, p. 192).

Norms have certain characteristics that are important to group members. First, norms are only formed with respect to things that have significance for the group. Second, norms are accepted in various degrees by group members. Some norms are accepted by all, while others are only partially accepted. Third, norms may apply to every member, or they may apply to only some group members (Gibson, Ivancevich, & Donnelly, 1976).

Basically two types of norms are developed in a group, (a) behavior norms, and (b) performance norms. Behavior norms are rules that standardize how people act at work on day to day basis. Performance norms are rules that standardize employee output and number of hours worked (Wallace & Szilagyi, 1982). Robbins (1993) has illustrated four common classes of norms that appear in most work groups. These are as follows: (a) performance related processes; (b) appearance factors like appropriate dress, loyalty to work group, when to look busy etc.; (c) informal social arrangements, these norms regulate the social interaction within a group; and (d) allocation of resources. These norms cover things like pay, assignment of difficult jobs, and allocation of new tools and equipment.

There are many reasons why individuals conform to group norms. Among the major ones are personal factors, ambiguity, situational factors, and intragroup relationships. Personal factors include such things as age, sex, intelligence, and authoritarianism. Research shows that conformity tends to increase to a maximum level at ages 13-15, and to decrease thereafter (Costanzo & Shaw, 1966).



A second major factor accounting for conformity is ambiguity. If people do not understand instructions or if the choice of alternatives is unclear, they are likely to conform to the lead of those who seem to know what is going on. Situational factors like group size, unanimity of the majority, and structure of the group affect group conformity to norms (Asch, 1951; Shaw, 1957; Goldberg, 1955).

Intragroup relationships are the relations between members of the group. Variables, namely the kind of pressure exerted, group composition, group success in terms of past goal achievement and individual's identification with the group are the reasons for group norm conformity (Shaw, 1972).

Daan and Henk (1992) in their study on prototypicality of arguments and conformity to ingroup norms found that subjects had a tendency to conform to group norms and motivation to conform to group norms was mediated by the social categorization process. Counselman (1991) provided the evidence that long term leaderless groups can function effectively if certain tasks typically performed by the leader are assumed by the group, namely adherence to group norms, group structure, gatekeeping and adherence to task.

Mawhinney and Gowen (1990) suggested the effectiveness of group performance critically on the following: (a) group norms associated with the programs, (b) actual (and projected) monetary rewards received, and (c) immediacy of social reinforcements vs. delayed monetary reinforcements.

Skinner and Cattarello (1989) tested the hypothesis that group norms would increase in importance over attitudes as behavioral commitment increased. Results supported the hypothesis.

Soo, (1992) assessed whether 4 types of leadership by team captains, based on leader's goal achievement orientation and group relation orientation affected

performance norms. Results showed that performance norms were highest under leaders who were rated high in both goal achievement and group orientation and were lowest who were low on both orientations. Soo, and Yoshio, (1992) found a strong and significant correlation between group performance norms and group cohesiveness.

### Group Size

Group size has been a focus of interest in the social sciences for a very long time. The number of group members is an important variable because of its impact on interaction patterns and the resources available to accomplish tasks and encourage commitment. The size of the group affects the group's overall behavior but the effect depends on what dependent variables one looks at (Thomas & Fink, 1963; Hare, 1976; Shaw, 1981).

The evidence indicates that small groups are faster at completing tasks than are larger ones. However, if the group is engaged in problem solving larger group are better (Robbins, 1993). Robbins (1993) suggested that large groups, with a dozen or more members are good for gaining diverse input. Smaller groups are better at doing something productive with that input. Groups of approximately seven members tend to be more effective for taking action.

In the view of Gibson (1976) an increase in size provides opportunities to interact and also to "hide" within the group. However, there are disadvantages too. In large groups there is a tendency for subgroups to emerge and form goals which in some cases are inconsistent with those of the larger groups. Gibson further suggested that with the increase in group size the physical distance between members also increases. Without some degree of proximity, commitment, trust, and openness of communication are hindered. In a study of problem solving Gibb (1951)

found that groups ranging in size up to 96 members, produced more ideas than smaller ones, but the increase was progressively smaller with each size increase.

One of the most important findings related to the group size has been labeled 'Social loafing' (Moede, 1927; Harkins & Szymanski, 1989; Earley, 1989; Goodman, Ravlin, & Argote, 1986). Social loafing is the tendency of group members to do less than they are capable of as individuals. It directly challenges the logic that the productivity of the group as a whole should at least equal the sum of the productivity of each individual in that group.

Ringelmann, a German psychologist in late 1920s, conducted a study on the rope-pulling task to compare the individual and group performances. He expected that group performance would be higher. Ringelmann's result did not confirm his expectation. Studies by Moede, 1927; Kravitz & Martin, 1986; Jones, G., 1984; Albanese & Fleet, 1985; Harkins & Szymanski, 1989) support the finding of Ringelmann.

The research by Thomas and Fink (1983) concluded that, (a) groups with an odd number of members are preferred to those with an even number; and (b) groups made up of five or seven numbers do a good job of exercising the best elements of both small and large groups.

Sato (1988) investigated whether the effect of trust on cooperation diminishes as group size increases. Results indicated that the positive effect of trust on cooperation exists only in small groups. In a 3 persons group, the effect of trust was fairly strong. However, in the 7-person groups, the effects of trust were practically non-existent.

Littlepage (1991) tested predictions of task-specific relationships between group size and performance based on Steiner's model. In the study Littlepage used 216

subjects in two or ten person groups to determine whether the participation pattern in large groups mediate relationships between group size and performance. When participation was required of all members, the predictions of Steiner's model were supported for both tasks.

Wheelam and Mckeage (1993) studied developmental patterns in small and large groups. The findings revealed that participation, pairing, and work were significantly lower in the large groups and flight was significantly higher. The study concluded that increased group size does not radically alter development but does appear to negatively affect participation, cohesion and productivity.

Chitayat (1980) has studied the role and function of the boards of directors in companies in Israel examining their organization structure and effectiveness. Both chairpersons of board and CEOs reported a preference for working with a smaller group of people from three to five in making important decisions, that a large board was not effective, and that as the size of the board increased, participation decreased.

#### Nature of group

Group is an important unit of sociological analysis which contributes much to the understanding of organizational behavior. Group dynamics are concerned with the interactions and forces among group members in a social situation.

There is no one definition of work group neither there is any universal agreement on the definition of group dynamics. Different connotations have been attached to the term 'group dynamics' popularized by Kurt Lewin in 1930s. The normative approach to group dynamics suggests how a group should be organized and conducted. Democratic leadership, member participation, and overall cooperation are stressed. Another view consists of a set of techniques, emphasizing role playing, brainstorming, team building, transactional analysis, leaderless groups, group

sensitivity training, and group therapy. Thirdly, group dynamics are viewed from the perspective of the internal nature of group, how groups are formed and how they function and affect individual members, their structure and process (Luthans, 1989, pp. 370-371). Baron (1986) defined group as a collection of two or more interacting individuals with a stable pattern of relationships between them who share common goals and who perceive themselves as being a group. Arnold and Feldman (1986), and Robbins (1993) have given a similar definition of group.

Bales (1950) defined group in terms of perception. He proposed that members must perceive their relationships to others to be considered a group. He suggested that members of the group must perceive the existence of each member as well as the existence of a group.

Sociologists view the groups in terms of organizational characteristics. According to McDavid and Harari (1969, p. 237), an organized system of two or more individuals who are interrelated so that the system performs some function, has a standard set of role relationships among its members, and has a set of norms that regulate the function of the group and each of its members.

Group has also been interpreted in terms of motivation. A group that fails to aid its members in satisfying their needs will have a difficult time in remaining a viable group. This motivational interpretation defines a group as: "... a collection of individuals whose existence is rewarding to the individuals" (Bass, 1960, p. 39).

Some theorists defined group in terms of interaction. They assumed that interaction in the form of interdependence is the core of "groupness". Homans (1950, p. 1) in his book 'The Human Group' expressed the view that we mean by a group "a number of persons who communicate with one another often over a span of

time, and who are few enough so that each person is able to communicate with all the others, not at secondhand, through other people, but face-to-face."

Shaw (1971) defined work group as two or more employees who interact with each other in such a manner that the behavior and/or performance of a member is influenced by the behavior and/or performance of other members.

An organization has certain goals to achieve and these goals are accomplished by groups in the organization. There are both formal and informal groups in the organization. A formal group is a designated work group defined by the structure of an organization. In contrast, informal groups are alliances that are neither formally structured nor organizationally determined.

Sayles (1957) subclassified groups as command, task, interest, or friendship groups. Command and task groups are dictated by the formal organization, whereas interest and friendship groups are informal alliances. The command group is specified by the organization chart. It is comprised of the subordinates who directly report to a given supervisor. A task group, represents those working together to complete a job task. However, a task group is not limited to its immediate hierarchical supervisor. An interest group represents the individuals who may not be members of the same command or task group but may affiliate to achieve some mutual objective. A friendship group represents the individuals brought together because of their common characteristics, for example, age, ethnic background and beliefs.

A review of literature by Shea and Guzzo (1987) has shown that three factors seem to play the major role in determining group effectiveness, (a) task interdependence (how closely group members work together); (b) outcome interdependence (whether, and how, group performance is rewarded); and (c) potency (members' belief that group

can be effective). Campion, Medsker, and Higgs (1993) found that work group characteristics predicted group effectiveness in terms of productivity, satisfaction, and manager judgment.

#### Structural aspects related to group

The functioning of groups can also be facilitated when positions and roles of group members are well-defined. Groups cannot function effectively without some kind of structure. Structure is even more important in groups, that must not only solve problems, but must also carry out their decisions.

The importance of structure in groups is indicated by a study conducted by Smelser (1961), who made use of an ingenious type of problem involving the operation of a model railroad, a technique that had been developed by Ghiselli and Lodahl (1958). Smelser found that assigning one person a dominant role and the other a subordinate role tended to produce superior results, as long as the personality patterns of both subjects were not inconsistent with their roles. The best performance was turned out by the groups in which high dominant individuals were placed in dominant roles, and low dominant individuals in subordinate roles. Experience also facilitated the performance of groups.

When a group acquires some stability in the arrangement of relationships among members, it may be said to be structured (Cartwright & Zander, 1960, p. 643). There are three rather different kinds of factors that tend to produce stable differentiations within groups. The first set stems from requirements for efficient group performance, the second arises from the different abilities and motivations of different individuals, and the third derives from physical and social characteristics of the group's environment (Cartwright & Zander, 1960, p. 643). Thus, it could be said that

structural patterns of groups are based on (a) efficient group performance, (b) skills and motivations of group members, and (c) social environment of the group.

The present investigator proposes to see the structural aspects namely, bureaucratization and formalization of the group in the context of efficient group performance. As a group organizes to do work, it often finds that it is more effective if it "specializes" the task of its members. In large formal organizations this specialization is supervised by a specialist in specialization. The objective of the specialist is to construct a structure which will yield optimal organizational performance. Usually the person is concerned to see that each position (a) consists of a set of functions which are performed by one individual (or sometimes a group), (b) has unambiguous responsibility to some other position, (c) has clear authority over other positions, and (d) is directly connected in a communication network with some positions but not with others.

#### Bureaucratization.

Max Weber, one of the pioneers of modern sociology, presented an enunciation of what he thought was an ideal organization structure called a 'bureaucracy'. Weber specified several characteristics of bureaucracy. The major ones are the following.

1. Specification and division of labor. Weber proposed that organizational functions should be marked off as part of a systematic division of labor, the provision of the role incumbent with the necessary authority, and that the necessary means of compulsions are clearly defined and their use is subject to definite conditions (1947).

2. Positions arranged in a hierarchy. Weber suggested the principle of hierarchy in offices, that is, each lower office is under the control and supervision of a higher one. This bureaucratic characteristic exercises control and supervision over every member



in the structure. Some organization theorists, such as Herbert Simon, have pointed out that hierarchy is in the natural order of things (Simon, H.A. 1960).

3. A system of abstract rules. A rational approach to organization requires a set of formal rules to ensure uniformity and coordination of effort. A well-understood system of regulations also provides the continuity and stability that Weber thought were so important.

4. Impersonal relationships. Weber believed that an ideal official should practice formalistic impersonality, without hatred or passion, and hence without affection or enthusiasm. He felt that for bureaucrats to make completely rational decisions, they must avoid emotional attachment to subordinates and clients (Luthans, 1989).

Apart from these four characteristics, other important aspects of an ideal bureaucracy is that employment is based on technical qualifications. The bureaucrat is protected against arbitrary dismissal, and promotions are made according to seniority and/or achievement. In the view of modern organization theorists, Weber's bureaucracy was intended to be an ideal construct. No real world organization exactly follows the Weber's model (Blau, 1956; Dow, 1988; Rogers, 1975; Druker, 1954; Peter, 1969; Bennis, 1965; Parkinson, 1957; Peters & Waterman, 1982; Blanchard & Johnson, 1982; Peters, 1987).

The modern bureaucratic structuring consists of vertical and horizontal structural arrangements. Vertical structural arrangement concentrates on centralization versus decentralization and on flat vs. tall structure. These represent modifications of the classical principles of delegation of authority and limited span of control. Decentralization expands the principle of delegation to the point of an overall philosophy of organization and management. A "tall" organizational structure means a series of narrow spans of control, and a flat structure means a wide span of

control. The bureaucratic principle of hierarchy is also closely related to the vertical concept.

Horizontal structural arrangement is concerned with organizing one level of the hierarchy. The concepts of departmentation and of line and staff represent this approach. They are derived from the bureaucratic theory of specialization. Departmentation concentrates on organizing each level to attain optimum benefit from high degrees of specialization. The staff concept resolves the vertical and horizontal conflicts. In general, the new concepts of bureaucracy are one step further than the old theory. They give greater weight to human element and recognize that simple, mechanistic structural arrangements are not satisfactory for complex organizations (Luthans, 1989, p. 566).

#### Formalization.

The other component of structure is formalization. This term refers to the degree to which jobs within an organization are standardized. If a job is highly formalized, the employee has a minimum amount of discretion over what is to be done, when it is to be done, and how it is to be done (Robbins, 1993, p. 448).

When there is high formalization, there are explicit job descriptions, lots of organizational rules, and clearly defined procedures covering work process in organizations. In the case of low formalization job behavior is nonprogrammed and role incumbents have a lot of freedom to exercise discretion at work (Robbins, 1993).

In many cases a formal organization may have within it an informal organization. Thus, the group members may be expected to do certain things, or relate to others in certain ways, according to the formal organization, but may also feel quite different influences stemming from the informal organization (Cartwright & Zander, 1960, p. 646). Roethlisberger and Dickson (1939), in their book "Management

and the worker", had illustrated the conflicting situation of a worker when he must decide between conforming to the pressures coming from the formal organization and the informal organization. Burns (1955), from his study on small groups, presented an insightful description of the relations between informal groups of management personnel and the formal organization of a factory. His findings revealed that role incumbents conformed to that structure which provides greater need satisfaction, and it was found that informal structure emerged more frequently in those organizations whose formal structures did not provide adequate opportunity for satisfying the needs of the members.

### Span of Control

The number of subordinates a manager can efficiently and effectively direct is known as span of control. The question of span of control received a great deal of attention from the classical theorists. It was argued that the ideal span of control is twenty for first line managers, eight for middle managers, and four for executives. The logic given was that the more routine the work employees were doing, the less supervision they needed and therefore a manager could handle a larger number of employees (Arnold & Feldman, 1986, p. 273).

The span of control concept was important to the classical theorists because, to a large degree, it determines the number of levels and managers an organization has. All the things being equal, the wider the span, the more efficient the organization. Robbins (1993) suggests that wider spans are more efficient in terms of cost, but at some point it reduces effectiveness.

Peters (1989) proposed that in recent years flat structures with wide span of control are largely accepted. More and more organizations today are increasing their span of control. For example, the span for managers at companies such as General

Electric and Reynolds metals has expanded to ten or twelve subordinates twice the number a dozen years ago (McClenahan, 1989).

Fleet (1983) suggested that managers with well trained and experienced employees can function with a wider span. Contingency variables, for example, task similarity, task complexity, physical proximity of subordinates, degree of standardized procedures and preferred style of managers determine the span of control.

Allen (1977) suggested that effectiveness of a group depends on geographical location, stimulation of interaction, degree of power given to the project manager, and essentially on structural characteristics of how the group is organized. Bass (1980) suggested that other things being equal group structure is the determinant of effectiveness. In a wide reaching paper on 'group structure, performance and organizational context', Pearce and David (1983) reached a similar conclusion. Gladstein (1984) suggested that group structure influences group effectiveness both directly and indirectly. The indirect link to effectiveness is achieved through the influence of group structure on group process.

Fry and Slocum, Jr. (1984) hypothesized that effectiveness of work groups should be affected by decisions on technology and structure. The results revealed little support for hypothesized relationships.

Schuler (1986), in his study suggested that organization structure and human resource management practices are important factors involved in successful corporate entrepreneurship.

Brass (1981) found a significant relationship between structure and job characteristics. He further suggested that job characteristics mediate the relationship between structure and individual responses.

Jones and James (1979) found relationships between "operational" structure (centralization, formalization, standardization) and job characteristics. Studies by Pierce and Dunham (1978) and Oldham and Hackman (1981) showed that measures of centralization and formalization relate negatively to such job characteristics as autonomy and variety.

Laboratory research on small groups indicated that persons occupying central positions in the network were rated as more influential and were more satisfied with their tasks than were persons in peripheral positions (Leavitt, 1951; Shaw, 1964; Davis, 1969). The explanation for the positive relationship between centrality and satisfaction is that central positions are more autonomous (Leavitt, 1951; Trow, 1957; Mulder, 1959; Shaw, 1964). Leavitt (1951) argued that a person in a central position will be viewed by himself and others as having the greatest problem - solving potential. Laboratory findings indicated that persons in central positions are more often perceived or selected as leaders of the group (Shaw, 1964; Cartwright & Zander, 1968).

### **Some Other Variables in the Study**

#### **Industrial Categorization**

In the present investigation, organizations belonging to textile, chemical and mechanical industries were studied at large. Though, the difference in variables under study belonging to these three categories of organization does not appear on the surface, there could be some possibility that the variables in the study might differ across the categories of industries.

There are certain reasons to believe that the executives might have varied in their general caliber and preference, whereby they got into specific industry. For

example, people who consider chemicals to be health hazards or do not like the strong odor of chemicals might not prefer to join chemical industry. Secondly, people might like to join the industry which has better prospects ahead. And lastly, due to the state of art, competing organizations, and the consumer preference, the organizations of three industries would be likely to vary on a number of structural and process variables. Viewing these assumptions, the researcher decided to include the variable of industrial categorization in the study.

The investigator could not find any study relating to the variable industrial categorization with other variables in the study.

### Ownership

Recently, there has been an increasing interest in research comparing the public and private sectors (Perry & Kraemer, 1983) as evidenced by the increasing number of studies (e.g. Shukla & Tripathi, 1994; Bergmann, 1994; Boyatzis, 1982; Buchanan, 1974, 1975; Silfvast & Quaglieri, 1994; Kirkcaldy, 1993; Kaur, 1989; shukla, 1989; Fottler, 1981; Lachman, 1985; Paine et al, 1966; Perry & Babitsky, 1986; Perry & Rainey, 1988; Porter & Michell, 1967; Rainey, 1979; Solomon, 1986; Frostel & Nichols, 1982) comparing the public and private sector organizations.

Dictionaries (Guralnick, 1980) define 'public' as referring to matters pertaining to the people of a community, nation, or state, citing the origin of public in the Latin word for people. 'Private' derives from the Latin for deprived or set apart, as in being deprived of public office or set apart from government. Accordingly, public organizations have been equated with governmental bureaus (Peabody & Rourke, 1965), and private organizations have been identified as all other organizations, or as business firms (Perry & Rainey, 1988).

The most common definition of public and private organization is based on patterns of ownership and/or funding (Alchian & Demsetz, 1972; Chubb & Moe, 1985; Demsetz, 1967; Hickson, 1986; Wamsley & Zald, 1973). Wamsly and Zeld (1973) defined public organizations as those owned and funded by government and private organizations as those owned and funded through sales or private donations.

Researchers (e.g., Lau & Panett, 1980) have indicated that managers in both public and private sectors perform the some kind of activities in terms of complexity of job content and roles in terms of job characteristics, whereas others (e.g., Fottler, 1981; Rainey, 1976) have challenged the notion that management functions are same in all types of organizations. Solomon (1986) suggested that public and private organizations differ on a number of dimensions, the effective functioning of both types of organizations may be thought of as depending on different criteria. Meyer (1982) emphasized that attention should be paid to the differences between public and private organizations because inattention can lead to over generalization in organization theory.

Managers in the private sector operate in a competitive and dynamic environment; profitability is their ultimate criterion of success. The private sector economic dynamics are defined as a dependence on the market for resources, which provide incentives and automatic penalties that reinforce policies for cost reduction, operating efficiency, and effective performance (Solomon, 1986).

Managers in public sectors are expected to maintain constituencies, seek multiple goals, and obtain funding through an appropriate process, which is susceptible to political influences (Rainey, Backoff, & Levine, 1976). Pareek (1985) observed some notable characteristics of public organizations. They are (a) public accountability,

(b) relatively large size, (c) bureaucracy, (d) critical role in national economy, (e) social responsibility, and (f) focus on employee welfare.

Perry and Rainey (1988) pointed out that the public and private concepts are multidimensional. As Benn and Gaus (1983) suggested that public and private concepts vary along three dimensions; (a) interest, distinguishing whether benefits or losses are communal or restricted to individuals; (b) access, which refers to the openness of facilities, resources, or information; and (c) agency, which refers to whether a person or an organization is acting as an individual or as an agent for the community as a whole. Similarly, Trostel and Nichols (1982) used three factors: (a) trading or lack of public trading of the stock, (b) top management's financial stake in the firm, and (c) the autonomy of top management, as the basis for differentiating public and private ownership.

Though, organizations can broadly be classified into public and private categories but this distinction is not clear-cut dichotomy (Solomon, 1986). Dhal and Lindblom (1953) and Fottler (1981) have proposed a continuum between private and public sector organizations. Fottler (1981) identified four classes of organizations with the continuum. Wamsley and Zald (1973) suggested that organizations that overlap (i.e., private ownership with public funding, or public ownership with private funding) represent mixed or hybrid types, such as government corporations, government contractors, or public utilities.

Some of the Indian studies (e.g., Bushan & Kaur, 1983; Pareek, 1985; Singh & Sinha, 1986; Sinha, 1973; Kaur, 1989; Shukla, 1988; Singh, 1988) have been conducted taking into account the variable ownership. In India, most of the public sectors were headed by bureaucrats who followed the bureaucratic norms.



Consequently, public sector organizations have more bureaucratic structure than the private organizations (Singh, & Sinha, 1986).

The dynamics of ownership in the context of other organizationally relevant variables have been explored. There is some evidence that for controlled organizations, the owner's characteristics (government vs. private, financial vs. technical orientation of the controlling authority, and its demanding but nurturant role) may affect the level and pattern of the performance of the organization (Dholakia, 1978; Khandwalla, 1981; Maheshwari, 1978; Pendse, 1983).

Salanick and Pfeffer (1980) found that ownership mediates the relationship between the executive tenure and corporate performance.

Zeffane, (1994) found that private sector employees scored high on organizational commitment, flexibility and adaptation and on work group discontinuity/change than public sector employees. Flynn and Tannebaum (1993) found that private sector managers have greater job autonomy and challenge in their job and believed that autonomy was more important to effective job performance than did public sector managers. Public sector managers rated job clarity as more important to job performance than did private sector managers. Both sectors reported a relative lack of clarity in their jobs.

Rai and Rai (1993) in Indian setting found that laborers showed more favorable attitudes toward management in public sector organizations compared to private sector organizations.

Kumar and Achamamba (1993) in their study on public and private sector industries in India found that public sector administrative staff had higher job satisfaction than private sector administrative staff. Buchanan, II (1974, 1975), Sinha (1973); and

Solomon (1986) found that private sector executives had higher level of satisfaction in comparison to public sector executives.

Khojasteh (1993) indicated that pay and job security are significantly greater motivators for managers in private sector than in the public sector managers whereas the intrinsic reward factor of recognition had higher motivating potential for public sector managers than private sector managers.

Ownership in the present Context. In the present context ownership would be classified into two categories (a) public, and (b) private, on the basis of their ownership, funding etc. The hybrid organization would be classified also into either public or private category depending upon their funding and control. The reasons for doing this are as follows: (a) The ramification of public and private classification are not clearly known and inclusion of the hybrid category would put extra strain on sampling and interpretations, (b) owing to the constraints, it would be difficult to include such organizations in a sizable number, and (c) there were very few organizations in the geographical territory from where the sample was proposed to be covered for use in the present study.

### Forging ahead

Up to this point, the existing theoretical and empirical body of knowledge with regard to the variables in the study, especially within the framework of social psychology and organizational behavior, was presented. This work would focus on the construct of effectiveness in the main, but simultaneously the understanding of the dynamics of organizational behavior in terms of the variables mentioned above would also be a major concern.

With the use of factor analysis the underlying dimensions of variables in the study would be unraveled. The relationships among the dimensions pertaining to the

variables would be explored using various statistical techniques including correlations, canonical correlations, regression, discriminant analysis, analysis of variance etc.

Within the framework of the present study it would be difficult to carry out research in a confirmatory manner as not much empirical knowledge is available in the area of the organizational behavior regarding the constructs of individual, group and organizational effectiveness as conceived in this study. Hence, an exploratory framework of research is proposed with a hope that result findings would furnish the foundation for confirmatory or hypotheses based research in future.

For the present research no specific hypothesis would be advanced, though, some research questions would be raised and sought to be answered in the results section. Based on the results, the importance and implications of the variables in the study would be deciphered, and against a backdrop of limitations realized during the execution of this research, suggestions for future research would be offered. Having dispensed with the hypotheses building or confirmatory approach at this stage, and pledging to take up research questions in the results section, a move is made to the method section.

## Chapter - 2

### METHOD

#### Sample:

The data was collected from two hundred and fifty male executives, mostly belonging to middle hierarchical level. A total of thirteen organizations from both public and private sectors constituted the sample. These organizations were located in three big cities of North India, one city of Karnataka and the capital city of India. Further information about the sample is listed in Table 1.

#### Measures:

The measures used in this study were either a modified version of the original source or were developed by Sinha and Srivastava (1993) on the basis of the writings of the respective authors. Modifications included changes in wordings, sentence constructions, scaling, response categories and selective use of items and ideas. The exact form of measures appear in Appendix A. The broad descriptions of measures follow.

Form 1 : Biographical Information. Personal background information such as age, education, salary, length of service, number of promotions etc. was obtained through a biographical inventory. It comprised of 18 items. All the items were freshly constructed by Sinha and Srivastava (1993) for the purpose of this study.

Form 2 : Individual Behavior Norm. This questionnaire was freshly constructed by Sinha and Srivastava (1993) and it comprised of 9 items.

Form 3 : Learned Helplessness. This questionnaire is comprised of 17 items. Learned helplessness is measured through the scale freshly developed by Sinha and Srivastava (1993) based on the writings of Hirots and Seligman (1975), Seligman

able - 1

Summary of the Organisational Characteristics and Number of Respondents

Organisation No.	No. Of employees	Industrial categorisation	Ownership	No. Of respondents
1.	3198	Mechanical	Public	20
2.	358	Chemical	Public	25
3.	2500	Mechanical	Public	23
4.	1160	Chemical	Public	20
5.	8200	Mechanical	Public	20
6.	3500	Mechanical	Private	20
7.	2450	Mechanical	Private	20
8.	1110	Textile	Private	19
9.	13000	Chemical	Private	26
10.	250	Chemical	Private	15
11.	4148	Mechanical	Public	15
12.	17000	Mechanical	Private	16
13.	2230	Textile	Private	11
Total				250

(1975), Maier and Seligman (1976), Hanusa and Schultz (1977) and Miller and Norman (1979).

Form 4 : Locus of Control. This questionnaire contains 16 items. It is taken from Kumar (1993).

Form 5 : Maturity Questionnaire. This questionnaire was based on the writing of Robbins (1993) and consisted of 16 items.

Form 6 : Need Structure. This scale was developed by Srivastava, and Sinha (1993) based on the writing of Schutz on FIRO - B. The questionnaire has 6 items of interpersonal need structure and it purport to measure the criteria of Individual Effectiveness.

Form 7 : Procrastination. This measure consists of 9 items and is based on the writings of Ferrari, (1992), Burka and Yuen (1983), Fenigstein, Scheier and Buss (1975), and Arkin and Baumgardner (1985).

Form 8 : Public and Private Self Awareness. This scale was adapted from Scheier (1976), originally developed by Fenigstein, Scheier, and Buss (1975). The scale has 13 items.

Form 9 : Private and Public Self Consciousness. This scale was adapted from Fenigstein, Scheier, and Buss (1975). It consists of 11 items.

Form 10 : Self Handicapping. This questionnaire comprised of 16 items based on the writings of Shepperd and Arkin (1989), Smith, Snyder and Perkins (1983), Snyder, Smith, Dugelli and Ingram (1985), Baumgardner, Lake and Arkin (1985), and Degree and Snyder (1985).

Form 11 : Self Limiting Behavior. This measure comprised of 9 items adapted from Veiga (1991).

Form 12 : Self Monitoring. This questionnaire consists of 13 items taken from the writing of Lennod (1988) originally developed by Snyder (1974).

Form 13 : Value Related Efforts. This questionnaire comprised of 20 items and is adapted from Sinha, J.B.P. (1988).

Form 14 : (Chinese) Value Survey. This questionnaire is comprised of 28 items. This questionnaire was adapted from the Chinese culture connection (1987).

Form 15 : Work Ethics. Work ethics was measured through a questionnaire that was adapted from Blood (1969). It consisted of 9 items.

Form 16 : Autonomy. Job autonomy was measured through Autonomy scale adapted from Hackman and Lawler (1971), Hackman and Oldham (1975), Sims, Szilagyi, and Keller (1976) and Stone (1974). The measure comprises 5 items.

Form 17 : Problem Demands in Term of Time. This measure has 5 items. Time constraint was measured through this scale and this questionnaire was taken from Singh (1986).

Form 18 : Performance Rating Scale. The scale comprises of 4 items. It was taken from Sinha (1993).

Form 19 : Skill Variety. This scale comprises 6 items. Skill variety was measured through scale adapted from Hackman and Oldham (1975), Sims, Szilagyi, and Keller (1976), and Stone (1974).

Form 20 : Task Significance. This is a 3 item questionnaire, adapted from Hackman and Oldham (1975), from their Job Diagnostic survey.

Form 21 : Task Identity. This questionnaire is comprised of 3 items and this scale is adapted from Hackman and Lawler (1971), Hackman and Oldham (1975), and Stone (1974).

Form 22 : Task Difficulty. The task difficulty scale was adapted from Van de Van, and Ferry (1979). The number of items in this scale are 5.

Form 23 : Quality Assurance. The scale comprises of 6 items. The scale was developed by Srivastava and Sinha (1994) based on the writings of Sinha Madhav N., Willborn, and Walter (1985).

Form 24 : Work Schedule. The work schedule scale comprises of 13 items and this was developed by Sinha and Srivastava (1994) based on the writings of Robbins (1993).

Form 25 : Achievement, Power and Affiliatory Relations. This measure has 6 items purporting to measure Achievement need, Power need and Affiliatory need. It was taken from the work of Kaur (1989), originally based on the writings of McClelland (1961, 1962, 1970, 1971, 1975), McClelland and Burnham (1976), Shutz (1958), and Winter Bottom (1958).

Form 26 : Effort Performance Expectancy. This questionnaire has 3 items and it is adapted from Sims, Szilagyi and McKemey (1976).

Form 27 : Individual Effort Performance. This measure consists of 6 items. The measure was freshly developed by Sinha and Srivastava (1994) based on the writings of Victor Vrooms Expectancy theory (1964).

Form 28 : Individuals Functional Place in Group. This questionnaire contains 6 items, developed by Srivastava and Sinha (1993).

Form 29 : Learning as a Value. This questionnaire consists of 10 items. The first six items were adapted from the writings of Rokeach (1973) and the rest four items were adapted from Walton, (1975).

Form 30 : Personal Relations to Group Members. This is a two item questionnaire developed by Sinha and Srivastava (1993).



Form 31 : Performance Reward Expectancy. This questionnaire consists of 9 items. It was adapted from Sims, Szilagyi and McKemey (1976).

Form 32 : Facilitating Organizational Climate. The questionnaire has 8 items in number. It was taken from Kaur (1989).

Form 33 : Motivation Management Plans. This questionnaire has 11 items in number. It was freshly developed by Srivastava and Sinha based on the writings of Robbins (1993).

Form 34 : Organizational Norms and Values. This measure is comprised of 13 items. It was freshly developed by Srivastava and Sinha based on the writings of Arnold and Feldman (1986) and Robbins (1993).

Form 35 : Your Organization. This measure is comprised of 24 items. It was based on the work of Super and Nevill (1986) and taken from Sinha, J.B.P. (1986).

Form 36 : Group Growth Consideration. This scale has 9 items. It was adapted from Hackman and Lawler (1971).

Form 37 : Growth Opportunities. This measure contains 4 items. It was freshly developed by Sinha and Srivastava (1994), based on the writings of Arnold and Feldman (1986).

Form 38 : Friendship Opportunities. This measure has 4 items in number. It was adapted from Sims, Szilagyi and Keller (1976).

Form 39 : Feedback. This measure is comprised of 6 items. It was adapted from Sims, Szilagyi, and Keller (1976) and Hackman and Oldham (1975).

Form 40 : Management Support. This questionnaire consists of 10 items. The first three items were adapted from Taylor and Bowers (1972), next four items were freshly developed by Srivastava and Sinha based on the writings of Fred Luthans (1989) and the last three items were adapted from Bushe, and Johnson (1989).

Form 41 : Quality Concern. This questionnaire consists of 7 items. It was taken from Kaur (1989) primarily based on the objectives that can be accomplished in quality circle program as enumerated by Ingle (1985).

Form 42 : Quality of Work Life. This questionnaire is comprised of 14 items. It was taken from Kumar (1994).

Form 43 : Reinforcement. The Reinforcement scale consists of 4 items. The scale was developed by Sinha and Srivastava (1994) based on the writing of Luthans (1986).

Form 44 : Social Facilitation. This measure has 7 items in number, developed by Sinha and Srivastava (1993) based on the writings of Arnold and Feldman (1986).

Form 45 : Supportiveness and Hostility of the Environment. The measure comprises of 14 items. It was freshly developed by Sinha and Srivastava (1994).

Form 46 : Transformational Leadership Style. This measure has 20 items. It was taken from Singh and Bhandarker (1991).

Form 47 : Individual Effectiveness Criteria. This questionnaire has 14 items. It was taken from Sinha, unpublished manuscript (1992).

Form 48 : Individual Need Fulfillment. This is another scale measuring the effectiveness of an individual. It was adapted from Porter (1961, 1962). The scale has 10 items in number.

Form 49 : Need Satisfaction. The questionnaire has 5 items. It was developed by Srivastava (1993) based on the writing of Maslow's theory on need hierarchy.

Form 50 : Value Realization. This questionnaire has 16 items, measuring the aspired and attained values of an individual in life, to know how successful an individual has been in his own judgment. This scale was taken from Kaur (1989) mentioned as Idealized Success questionnaire.

Form 51 : Group Behavior Questionnaire. The scale has 24 items purporting to measure the behavior norms of work group. The scale was adapted from Leader Behavior Description Questionnaire Form XII, Stogdill (1963).

Form 52 : Group Behavior Norm. The scale comprises 5 items and it was freshly developed by Sinha and Srivastava (1994), based on the writings of Arnold and Feldman (1986).

Form 53 : Group Size. It is a two item measure and was freshly developed by Srivastava (1993) based on the writings of Robbins (1993).

Form 54 : Nature of Group. This measure was freshly developed by Sinha and Srivastava (1993) based on the writings of Robbins (1993). The scale has 8 items.

Form 55 : Role Identity. This questionnaire measures the role efficacy of the work group. It has 4 items and the scale was developed by Sinha and Srivastava (1993) based on the writing of Robbins (1993).

Form 56 : Bureaucratization. The scale was freshly developed by Srivastava and Sinha (1993) based on the writings of Fred Luthans (1989). There are 6 items in the questionnaire measuring the Weberian concept of Bureaucracy.

Form 57 : Formalization. The scale has 9 items. It was adapted from Pugh, Hickson, Hining and Turner (1968).

Form 58 : Span of Control. This scale measures the number of employees under a team head. The scale has two items. It was developed by Sinha and Srivastava (1992).

Form 59 : Stratification. The scale has 5 items. It was taken from Sinha (1994).

Form 60 : Group Task Motivation. The questionnaire comprises of 8 items. The first six items were developed by Sinha (1993) based on the writings of Krech, Crutchfield,

and Ballancey, (1962). The last two items were adapted from Patchen, Pelz, and Allen (1965).

Form 61 : Goal Setting. The questionnaire comprises 5 items. It was developed by Srivastava and Sinha (1994) based on the writings of Robbins (1993) and Luthans, Fred (1986).

Form 62 : Informal Personal Relations. This measure is adapted from Dubins scale on Central Life Interests, Dubin (1956). The scale has 6 items in number.

Form 63 : Interpersonal Trust at Work. The questionnaire has 9 items. The scale was adapted from Cook and Wall (1980).

Form 64 : Managerial Role Rating. The scale comprises 10 items, it was adapted from Joseph G.P. Paolillo (1987). This scale measures the relative importance of various managerial activities based on Mintzbergs managerial roles.

Form 65 : Role Relationship. This measure was developed by Sinha (1993) based on the writings of Katz and Kahn (1978). The role relationship scale consists of 11 items, purporting to measure how role incumbents evaluate each other and their own expected evaluation by others.

Form 66 : Group Learning. Group Learning scale was developed by Srivastava and Sinha based on the writings of Argyris, Schon, and Donald (1978). It measures the effectiveness of a work group.

Form 67 : Group Growth Level. The scale measures the personal growth a group has achieved. Basically it is a measure for group effectiveness. It was taken from Sinha (1992). The scale has four items in number.

Form 68 : Group Goal Accomplishment. It is a 4 item scale measuring work group effectiveness. The scale was taken from Sinha (1992).

Form 69 : Group Cohesiveness. This is a measure of work group effectiveness. The scale has 9 items. It was adapted from Scott, and Rowland (1970).

Form 70 : Special Reward. The questionnaire measures the group effectiveness. It is a 3 item scale and was developed by Srivastava (1994), based on the writings of Robbins (1993).

Form 71 : Control of the Surrounding Environment. The scale has 20 items measuring organizational effectiveness. The scale was taken from Kumar (1993).

Form 72 : Espirit de Corps. This is a 3 item scale, measuring the morale of the group members. It is a measure of organizational effectiveness. The scale was adapted from Jones and James (1979).

Form 73 : Equitable Reward System. This questionnaire comprises of 5 items and was taken from Kumar (1993).

Form 74 : Organizational Commitment. Organizational commitment scale comprises 10 items, measuring organizational effectiveness. This questionnaire was adapted from Porter and Smith (1970).

Form 75 : Team Building. This is a 4 item scale, measuring components of organizational effectiveness. The scale was taken from Kumar (1993).

Apart from regular questionnaire measures, there were two categorical variables too, which were incorporated in the study. They were as follows :

Industrial Categorization. The main product of the organization was the deciding factor for Industrial Categorization. The categories were named as :

- a) Textile
- b) Chemical
- c) Mechanical

For scoring purposes, these categories were coded as 1, 2 and 3 respectively.

Ownership. The organizations were classified as either public or private on the basis of their official classification. For scoring purposes, public organizations were coded as 1 and private organizations were coded as 2 (Table 2).

**Procedure:**

A list of the work organizations located in North India was compiled using the documented sources of information. To avoid inclusion of small organizations, the organizations employing more than 500 persons were located. The geographical region of the sample was restricted to North India for the sake of convenience. The list of the organizations was initially prepared with a view to have variations on a number of structural characteristics. Letters of request were sent for obtaining permission to collect data from particular organizations, to which most of the organizations responded favorably. However, due to time constraint, only 13 organizations were selected to approach. With this time constraint, it was practically very difficult to select organizations according to various structural characteristics, that were initially thought to be investigated; and on the basis of which it could have been possible to get more variance. Finally, only two structural characteristics, namely Industrial categorization (textile, chemical and mechanical) and Ownership (public and private) were focused, that would probably account for some variance.

While conducting the actual survey, one of the organizations in north India denied the permission to collect data due to its internal problems. To make the match on structural grounds, an another organization in the state of Karnataka was approached to obtain data.

The primary selection of variables to be included in the study was done by gathering information from small number of prospective respondents of local

Table - 2

Classification of Organisations According to the Structural Properties

Ownership	Industrial categorisation	Organisation's location
Public	Textile	O13 : located in Uttar Pradesh
	Chemical	O2 : located in Uttar Pradesh O4 : located in Uttar Pradesh
	Mechanical	O1 : located in Uttar Pradesh O3 : located in Uttar Pradesh O5 : located in Uttar Pradesh O11 : located in Haryana
Private	Textile	O8 : located in Uttar Pradesh
	Chemical	O10 : located in Uttar Pradesh O9 : located in Karnataka
	Mechanical	O6 : located in Uttar Pradesh O7 : located in Uttar Pradesh O12 : located in Haryana

O = Organisation number

organizations and pre-pilot survey. The information gathered this way was operationalized in terms of variables relevant to the dynamics of the organization. A large number of items were obtained and a pilot run of the questionnaire was made on a small sample from local organizations, though these respondents were not included in the final sample. The final questionnaire was made on the basis of information and insight gathered during pilot run. Special attention was given to the clarity of meaning contained in the items and the content validity. Considering the planned analyses of final data, the small number of respondents contacted during pilot run, and the possibility of variation of responses across the organizations to be finally included in the sample; no haste item analysis procedure was used for the data that accrued from the pilot run.

The random sampling procedure in the selection of the organizations and also to a large extent in the selection of the respondents, could not be adhered to. The constraints were too many considering the time and resource availability. It could be said that, purposive sampling is the label that could most closely define the sampling procedure adopted in this study.

It was decided to take 20 respondents from each organization belonging to middle hierarchical levels of management. The data was to be collected from respondents belonging to production department. However, as a matter of fact, this criteria could not be strictly adhered to in a few cases. Hence the number of respondents were reduced to 15 from 20 and departments other than production had to be included in some organizations.

The respondents were approached individually mostly in duty hours, with permission from their respective organizations as well as off duty hours. Data was



collected through structured interview schedule. Respondents and organizations were assured for keeping the data in strict confidentiality.

A large number of variables were included in this research work. There could be two view points. One is that it is good to have as many relevant variables as possible, because in real life situation, there is dynamic complexity that could be accounted for only by taking into consideration as many aspects as possible. The second view is that, in this way almost everything becomes relevant as the number of respondents is limited as compared to the number of variables, and thus the generalizability and the accuracy of the results become questionable. In this regard, it is expressed that since the nature of the work is exploratory, hence there was not much harm in subscribing to the former stand and researcher went ahead including as many variables as thought to be relevant. Of course, during data analysis, certain steps were taken toward data and variable reduction; and certain other measures were also taken in order to ensure the validity of results as far as practicable.

### RESULTS

The variables in the study were planned and executed largely within the frame work of multivariate conceptualization as opposed to more popular univariate conceptualization of constructs. Owing to the complexity involved in conceptualization and treatment of variables in a real life setting, it was argued that there could always be a possibility of multidimensionality underlying the constructs that reflect social realities. To identify such dimensionalities, it is necessary to investigate the subject with a view to realize their precise nature and composition. The patterns of dimensions underlying a construct may interact with the patterns underlying some other construct to produce a more complex representation but which is a more authentic pattern reflecting the situational dynamism of social reality compared to a unidimensional conceptualization of constructs.

To explore the underlying dimensionalities, all multi-item questionnaires were subjected to factor analysis (principal factoring with iterations and oblique rotation). The following stands were taken in using factor analysis results :

- a) Extraction of factors was stopped after eigen value dropped below unity (except where factor solutions had to be forced in limited number of factors due to some methodological requirements);
- b) the belongingness of items to specific factors was kept non-overlapping in the sense that no item was included in more than one factor;
- c) only those items were retained in a particular factor which had a loading of equal to or more than 0.50 on that factor but did not have a cross loading of equal to or more than 0.30 on any other factor simultaneously;

d) single item factors, i.e., if a factor had only one item left in it that had a loading of equal to or more than 0.50, either by itself or as a result of adherence to the stand mentioned in clause c above, were not retained because single item factor are known to be notoriously unreliable; and

e) in tabular presentation of the factor analysis results, items discarded due to various stands mentioned above would be reported under heading unclassified items, however, for further analysis only those items would be used that satisfied various criteria of item selection mentioned above.

In this research, the prime concern of factor analysis technique was item analysis and data reduction with a view to identify underlying dimensions of various constructs having items of clear and high loadings on representative factors. Hence, in further analysis, the factors were treated as variables yielding composite scores on subscales of superordinate constructs rather than as factors in strict statistical sense.

A panel of five persons, out of which three had doctorate and two had masters degree in Psychology did the factor naming. The factor loadings, the item contents and the constructs from which the respective factors had been extracted were kept in view while naming the factors. A brief description, of various forms of questionnaire measuring the constructs used in this study and factors obtained there of, follows.

### **Exploring the Underlying Dimensions of the Constructs : The Factor Analysis Results**

Form 1 : Biographical Inventory. This questionnaire consisted of 18 items, which yielded 6 factors. The two factors were retained and named as ; (a) Seniority (S), which consisted of items no. 73 and 74, (b) Income and Status (IS), which consisted of item no. 76, 77 and 78.

Form 2 : Chinese Value Survey. This questionnaire consisted of 28 items, which yielded 9 factors. However, owing to our stand, 4 factors were retained that were named as follows; (a) Harmony and Contentedness, which consisted of item no. 110 and 114, (b) Sense of Shame and Reciprocation having item no. 123 and 124, (c) Intimate Friendship and , having item no. 116 and 117, (d) Kindness and Patience which consisted of item no. 128 and 129.

Form 3 : Individual Behavior Norm. This questionnaire consisted of 9 items. Factor analysis resulted in two factors. They were named as (a) Hard work, Punctuality and High Initiative (HPI), which consisted of item no. 17, 20 and 24, (b) {Professional} Opportunity Seeking and high Work Involvement (OSWI).

Form 4 : Learned Helplessness. This questionnaire consisted of 17 items and factor analysis resulted in 4 factors out of which two were retained. They were named as (a) Impaired Cognitive Functioning (ICF) having item no. 166, 167 and 168, (b) Uncontrollability of Events (UE) which consisted of item no. 177, 178, 179 and 180.

Form 5 : Locus of Control. This questionnaire has two parts consisting of 8 common items. The first part culminated into two factors and the second part culminated into single factor. The first part was named as (a) Internal Locus of Control (ILC) consisting of item no. 636, 637, 638 and 639, (b) External Locus of Control (ELC) consisting of item no. 633, 634 and 635. The second part was named as Synergic or Mixed Locus of Control (SMLOC) consisting of item no. 641 to 648.

Form 6 : Maturity. This questionnaire comprised of 16 items. Factor analysis resulted in five significant factors. However, owing to the stands mentioned in preceding sections, three factors were retained that were named as follows : (a) Willingness for high Responsibility and Achievement (WRA), which consisted

of item no. 10 and 11, (b) Punctuality and Job Confidence (PJC), which consisted of item no. 14 and 15, (c) Job Knowledge and Understanding (JKU), which consisted of item no. 2 and 3.

Form 7 : Procrastination. This questionnaire consisted of 9 items, culminating in two factors. Both the factors were retained and were named as (a) Perfectionism based Procrastination (PP) consisting of item no. 48, 49, 55 and 56, (b) Fear of Failure based Procrastination (FFP) which consisted of item no. 50 and 51.

Form 8 : Private and Public Self Consciousness. This questionnaire consisted of 11 items, culminating in three factors. They were named as (a) Self Consciousness in Public (SCP), consisting of item no. 201 to 205, (b) Reflective (R) which consisted of item no. 195, 196 and 197, (c) Motivational and Affective (MA) which consisted of item no. 199 and 200.

Form 9 : Private and Public Self Awareness. The questionnaire consisted of 13 items which resulted in two factors, which were named as (a) Self Awareness (SA) consisting item no. 215, 216 and 217, (b) Positive Group Feeling (PGF) consisting of item no. 206 to 213.

Form 10 : Self Limiting Behavior. This questionnaire has 9 items and the factor analysis resulted in three factors. They were named as (a) Highly Qualified and Persuasive Members (HQPM), consisting of item no. 60, 61, 62 and 63, (b) Unimportant and Meaningless Task (UMT) which consisted of item no. 57, 58 and 59, (c) Persuasive Member (PM), consisting of item no. 64 and 65.

Form 11 : Self Monitoring. This is a 13 item questionnaire. The factor analysis resulted in three factors, all of which were retained. They were named as (a) Impression Management (IM), consisting of item number 182, 186, 188 and 193, (b) Acting Ability (AA), consisting of item no. 183 and 190, (c) Congruence

was named as (a) Simple Job and Repetition of Tool (SJRT). This factor consisted of 3 items, i.e., 235, 236 and 237.

Form 18 : Task Significance. This is a 3 item questionnaire and the factor analysis resulted into a single factor and the factor was named as Task Significance (TS) as such, consisting of item no. 219, 220 and 221.

Form 19 : Task Identity. It is a 3 item questionnaire, culminating into two factors. One factor was retained which was named as (a) Task Identity (TI), consisting of item no. 222 and 223.

Form 20 : Achievement, Power and Affiliatory Relations. This questionnaire comprised of six items. Factor analysis resulted in two factors. They were named as (a) Achievement and Power Orientation (APO), consisting of item no. 244, 245 and 246, (b) Affiliatory Relations (AR), consisting of item no. 248 and 249.

Form 21 : Individuals Functional Place in Group. This questionnaire consisted of 6 items and factor analysis resulted into a single factor which was named as (a) Contribution to and the Recognition by the Group (CRG), consisting of item no. 272, 273, 274, 275, 276 and 277.

Form 22 : Learning as a Value. This questionnaire consists of 10 items. Factor analysis resulted in two factors. They were named as (a) Learning as a Value (LV), consisting of item no. 265, 266, 267, 268 and 269, (b) Valuing Independence and Intellect (VII), consisting of item no. 261 and 262.

Form 23 : Personal Relations to Group Members. This is a two item scale, culminating in a single factor which was named as Informal Close but Task Oriented Relations (ICTOR), consisting of item no. 270 and 271.

Form 24 : Work Related Expectancies - Effort Performance Expectancy. This questionnaire is comprised of 3 items. Factor analysis resulted into single factor which

was named as (a) Hard Work Ethic of the Group (HWEG), consisting of item numbers 434, 435 and 436.

Form 25 : Work Related Expectancies - Performance Reward Expectancy. This questionnaire comprised of 9 items, culminating into two factors. They were named as (a) Performance Reward Expectancy (PRE) consisting of item no. 464, 465, 466, 468 and 469, (b) Expectation of Promotion with more Effort on Job (EPEJ), consisting of item no. 461 and 462.

Form 26 : Organizational Commitment. This questionnaire has 10 items, culminating in three factors. Only one factor was retained which was named as (a) Organizational Commitment (OC), consisting of item no. 800 and 807.

Form 27 : Facilitating Organizational Climate. This questionnaire comprised of 8 items, culminating into a single factor. It was named as (a) Facilitating Climate of the Work Unit (FCWU) consisting of item no. 290, 291, 292, 293, 294, 295, 296 and 297.

Form 28 : Motivation Management Plans. This is a 11 item questionnaire. Factor analysis resulted in two factors out of which, only one was retained. It was named as (a) Conducive Motivation Management (CMM) consisting of item no. 298, 299, 300, 304, 305, 306, 307 and 308.

Form 29 : Organization Norms and Values. This questionnaire comprised of 13 items culminating into 3 factors. Two of these factors were retained which were named as (a) Participatively Structured Organization Norms and Values (PSONV), consisting of item no. 309, 310, 311, 313 to 318, (b) Autocratic, Bureaucratic Values (ABV), consisting of item no. 319, 320 and 321.

Form 30 : Organizational Climate. This questionnaire consists of 24 items. Factor analysis resulted in 5 factors. Three factors were retained. They were named as (a) Non Work Norms (NWN), consisting of item no. 600, 602, 611, 614, 615 and 616,

(b) Work Pressure (WP), consisting of item no. 599 and 617, (c) Technologically Conducive Work Condition (TCWC).

Form 31 : Equitable Reward System. This questionnaire contains five items. Factor analysis resulted in a single factor which was named as (a) Equitable Reward System (ERS), consisting of item no. 628, 629 and 632.

Form 32 : Feedback. This questionnaire comprised of 6 items culminating into a single factor, named as Feedback (F). It consisted of item no. 543, 544, 545, 546, 547 and 548.

Form 33 : General Supportiveness and Hostility of the Environment. This questionnaire consists of 14 items. Factor analysis results showed five significant factors and owing to our stands, only three factors were taken. They were named as (a) Rapidly Changing Price, Competitors and Policies (RCPCP), consisting of item no. 327, 328 and 329, (b) Dynamic Environment (DE), consisting of item no. 325 and 326, (c) Non Rapidly Changing Technology and Economy (NRCTE), consisting of item no. 322 and 323.

Form 34 : Friendship Opportunities. This is a 4 item scale, culminating in a single factor which was named as (a) Friendship Opportunities (FO). It consists of item no. 528, 529, 530 and 531.

Form 35 : Growth Opportunities. This questionnaire comprised of 4 items, culminating in one factor. It was named as (a) Growth Opportunities (GO), consisting of item no. 532, 533, 534 and 535.

Form 36 : Social Facilitation. This is a 7 item scale, culminating in a single factor which was named as Social Facilitation (SF), consisting of item numbers 536, 537, 538, 539, 540, 541 and 542.



Form 37 : Group Growth Consideration. This scale comprised of 6 items and factor analysis resulted into a single factor which was named as Group Growth Consideration (GGC), consisting of item numbers 549 to 557.

Form 38 : Quality Concern. This questionnaire is comprised of 7 items. Factor analysis resulted in a single factor which was named as Quality Concern (QC). This questionnaire consists item no. 558 to 564.

Form 39 : Management Support. The management support questionnaire is comprised of 10 items and factor analysis resulted into a single factor. It was named as Management Support (MS), consisting of item no. 565 to 574.

Form 40 : Transformational Leadership Style. This questionnaire is comprised of 20 items and factor analysis resulted in a single factor. It was named as Transformational Leadership Style (TLS), consisting of item no. 575 to 594.

Form 41 : Quality of Work Life. This scale comprised of 14 items. Factor analysis resulted into four factors, but owing to our stand only two of the factors were taken. They were named as (a) Job Autonomy (JA), consisting of item no. 654 and 656, (b) Lack of Variety (LOV), consisting of item no. 652 and 653.

Form 42 : Individual Effectiveness Criteria a (Need Structure). This questionnaire comprised of 6 items. The factor analysis resulted into two factors, but owing to our stand only one of those was retained and named as Need for Affection and Including (NAI), consisting of item no. 336, 338 and 341.

Form 43 : Individual Effectiveness Criteria b. This questionnaire consists of 28 items, divided into two parts. Each part contains 14 items. Factor analysis resulted in 3 factors in both the parts. In part I, only one factor was retained which was named as (a) Capacity for Effective Dealing with Self (CEDS), consisting of item no. 346, 347, 348 and 350. In part II, all the three factors were retained. They were named as

(a) Effectiveness Potential (EP), consisting of item no. 365 to 369, (b) Potential Awareness and Capacity to Work in the Dilemmas of Life (PACWDL), consisting of item no. 356 to 359, (c) Potentially Decreased Capacity to Deal with Self (PDCDS), consisting of item no. 360, 361 and 362.

Form 44 : Individual Effectiveness Criteria c (Individual Need Fulfillment). This scale contains 10 items. Factor analysis resulted in two factors, which were named as (a) Fulfillment of Recognition and Autonomy Needs (FRAN), consisting of item no. 373, 374, 377, 378 and 379, (b) Fulfillment of Security and Altruistic Needs (FSAN), consisting of item no. 370 and 371.

Form 45 : Value Realization. This scale comprised of 16 items. The factor analysis resulted in five factors, all of which were retained. They were named as (a) Job Prestige and Patriotism (JPP), consisting of item no. 393 and 395, (b) Comfortable Living (CL), consisting of item no. 389 and 390, (c) Excellent Work Condition (EWC), consisting of item no. 386 and 387, (d) Omnibus Success (OS), consisting of item no. 380 and 381, (e) Own People Success Archetype (OPSA), consisting of item no. 383 and 384.

Form 46 : Need Questionnaire. This questionnaire contains 5 items and factor analysis resulted in two factors. Only one of the factors was retained, which was named as Physiological Need Satisfaction (PNS), consisting of item no. 417 and 418.

Form 47 : Role Identity. This is a four item scale culminating in a single factor which was named as (a) Role Efficacy (RE), consisting of item no. 431, 432 and 433.

Form 48 : Group Behavior Questionnaire. This is a 24 item scale which culminated in 5 factors, but owing to our stand, only two of these factors were retained which were named as (a) Effective Performance Group Norm (EPGN), consisting of

item no. 450, 451, 452, 453, 454, 455, 458, 459 and 460, (b) Structural Performance Group Norm (SPGN), consisting of item no. 440, 444 and 445.

Form 49 : Span of Control. This is a two item scale culminating in a single factor which was named as Span of Control (SOC), consisting of item no. 476 and 477.

Form 50 : Stratification . This is a five item scale culminating in a single factor which was named as Stratification (S), consisting of item no. 481, 482 and 483.

Form 51 : Formalization. This questionnaire has 9 items. Factor analysis resulted in a single factor which was named as formalization (F), consisting of item no. 710, 711, 712, 713, 714, 715 and 716.

Form 52 : Bureaucratization. This question has 6 items culminating in a single factor which was named as Bureaucratization (B), consisting of item no. 719, 721 and 722.

Form 53 : Nature of Group. This questionnaire has 8 items. Factor analysis resulted in two factors. The first factor was named as (a) Formal, Interest, Friendship and Primary Group (FIFPG), consisting of item no. 725, 729, 730 and 731. The second factor was named as (b) Command and Task Group (CATG), consisting of item no. 727 and 728.

Form 54 : Group Size. This is a two item scale, culminating in a single factor which was named as Group Size (GS), consisting of item no. 733 and 734.

Form 55 : Informal Personal Relations. This questionnaire consists of 7 items and factor analysis resulted in two factors. The first factor was named as (a) Informal Personal Relations Facilitative of Work Activities (IPRFWA), consisting of item no. 509, 510 and 511. The second factor was named as (b) Informal Personal Relations Facilitative of Leisure Activities (IPRFLA), consisting of item no. 513 and 514.

Form 56 : Reinforcement. This is a four item scale, culminating in a single factor. The factor was named as Negative Reinforcement (NR), consisting of item no. 526 and 527.

Form 57 : Quality Assurance. This questionnaire consists of 6 items, culminating in a single factor which was named as Quality Assurance (QA), consisting of item no. 470, 471, 472, 473, 474 and 475.

Form 58 : Performance Rating. This questionnaire has 4 items, culminating in a single factor which was named as Groups Physical and Affective Caring (GPAC), consisting of item numbers 491 and 492.

Form 59 : Work Schedule. This questionnaire has 13 items, culminating in three factors. Two factors were retained which were named as (a) Convenient Work Schedule (CWS), consisting of item no. 753, 754 and 755.

Form 60 : Task Difficulty. This questionnaire comprised of 5 items and factor analysis resulted in a single factor which was named as Time Investment and Outcome Assurance in Tasks (TIOAT), consisting of item no. 768 and 770.

Form 61 : Group Task Motivation. This questionnaire is comprised of 8 items. The factor analysis resulted in two significant factors and both were retained. The first factor was named as (a) Groups Participative Orientation (GPO), consisting of item no. 426 and 427 and the second factor was named as (b) Groups Motivation for Goal Oriented Activity (GMGOA), consisting of item no. 422 and 424.

Form 62 : Goal Setting. This questionnaire consists of 5 items, culminating in a single factor which was named as High Performance Goals (HPG), consisting of item no. 504, 505 and 507.

Form 63 : Interpersonal Trust at Work. This questionnaire consists of 9 items and factor analysis resulted in three significant factors, but owing to our stand, only one

factor was retained. This factor was named as Interpersonal Trust in Work Group (ITWG), consisting of item no. 515 and 516.

Form 64 : Group Behavior Norm. This questionnaire consists of 5 items and factor analysis resulted in two significant factors out of which only one was retained. This was named as Participation Norm (PN), consisting of item no. 735 and 736.

Form 65 : Managerial Role Rating. This questionnaire consists of 10 items and factor analysis resulted in two significant factors. These were named as (a) Role Enactment of Entrepreneur, Negotiator, Figure-Head, Resource Allocator (REENFR), consisting of item no. 781, 787, 789 and 790, (b) Monitor and Disseminator Roles (MADR), consisting of item no. 784 and 785.

Form 66 : Role Relationship. This questionnaire consists of 33 items and factor analysis resulted in three factors. These were named as (a) Close Feeling and Initiative With Subordinates (CFIWS), consisting of item no. 814, 815, 816, 817, 818 and 820, (b) Close Feeling with Immediate Supervisor (CFIS), consisting of item no. 824, 825, 826 and 827, (c) Close Feeling, Task Initiative and Rewarding Relationship (CFTIRR), consisting of item no. 835, 836, 837, 839 and 845.

Form 67 : Group Learning. This is a 9 item scale, culminating in a single factor. The factor was named as Group Learning (GL), consisting of item no. 494, 495, 496, 497, 498, 499, 500, 501 and 502.

Form 68 : Group Growth Level. This is a 4 item scale, culminating in a single factor that was named as Job Enriched at Group Level (JEGL), consisting of item no. 757, 758 and 759.

Form 69 : Special Reward. This questionnaire comprised of three items, culminating in a single factor that was named as (a) Group Recognition (GR), consisting of item no. 761, 762 and 763.

Form 70 : Group Goal Accomplishment. This questionnaire comprised of 4 items and the factor analysis resulted in a single factor, which was named as Group Goal Accomplishment (GGA), consisting of item no. 778, 779 and 780.

Form 71 : Group Cohesiveness. This questionnaire is comprised of 9 items. The factor analysis resulted in three significant factors, but owing to our stand, only two factors were retained. They were named as (a) Cooperative, Vigorous and Efficient Fellow Workers (CVEFW), consisting of item no. 791, 796 and 797, (b) Quarrelsome, Selfish and Belligerent Fellow Workers (QSBFW), consisting of item no. 793, 794 and 795.

Form 72 : Control of the Surrounding Environment. This questionnaire has 25 items and the factor analysis resulted in five factors, all of which were retained. They were named as (a) Actual Innovation (AI), consisting of item no. 677, 680, 681 and 682, (b) Premium on Incorporation of the Milieu (PIM), consisting of item no. 664, 665, 666 and 668, (c) Absenteeism (A), consisting of item no. 686 and 687, (d) Premium on Adaptability to Suppliers, Customers and Competitors (PASCC), consisting of item no. 670, 671 and 672, (e) Potential Innovation (PI), consisting of item no. 674 and 675.

Form 73 : Team Building. This questionnaire comprised of 4 items, culminating in a single factor. The factor was named as (a) Team Building (TB), consisting of item no. 688, 689, 690 and 691.

Form 74 : Espirit de Corps. This questionnaire has three items, culminating in a single factor which was named as Espirit de Corps (EDC), consisting of item no. 810, 811 and 812.

Form 75 : Organizational Commitment. This questionnaire has 10 items and the factor analysis resulted in three factors. Only one of the factors was retained that was named as Organizational Commitment (OC), consisting of item no. 800 and 807.

The additional variables. In addition to the above described factors, two more variables had been included which were not subjected to factor analysis but had been used for the purpose of data analysis. They were as follows; (a) Ownership (O), and (b) Industrial categorization (IC). These two additional variables were categorical in terms of scaling.

The zero order product-moment correlations between the various variables included in this study, and corresponding means, standard deviations, and Cronbach's (1951) "standardized" alpha coefficients are mentioned in Appendix E.

#### **The Conceptual Scheme: Categorizing the Variables**

In the present work, the major construct studied were as follow. The person characteristics, task characteristics, persons' value climate and culture, organization support, management practices, group characteristics, groups' value climate and culture, individual effectiveness, group effectiveness and organizational effectiveness. Besides, two categorical variables, namely ownership and industrial categorization were included. The major constructs have had certain sub-classifications but related concepts. A number of primary measuring tools tapping corresponding subcategories of the major constructs were used that is why the actual number of scales was much greater than the major constructs used in the statistical analysis.

In the beginning the study was started with eighty four scales, consisting of 1200 items in total. On the basis of pilot study and preliminary item analysis seventy five scales were retained consisting of 878 items. These items were than subjected to

factor analysis, giving rise to one hundred and twenty seven factors or variables. The first order factors were further subjected to the "second order" factor analysis, culminating into eighteen second order factors. Additionally, two more variables that were either nominal (or categorical) in terms of scaling were used.

Conceptually the constructs incorporated in this study could be classified into seven categories. The categories are as follows: sector a (Individual characteristics); sector b (Contingency variables); sector c (Individual effectiveness); sector d (Group characteristics); sector e (Contingency variables); sector f (Group effectiveness); sector g (Organizational effectiveness).

Sector a represented the individual's personal characteristics variables considered to be important for personal effectiveness. Sector b could be subdivided into four sub-sectors, namely b1: task characteristics, b2: value climate and culture characteristics, b3: organizational support and b4: management practices. Sector c included the aspects of individual effectiveness. Sector d was composed of groups characteristics considered to be important for organizational dynamics. Sector e could further subdivided into four sub-categories, these subcategories were the same as subcategories of sector e (b1, b3 & b4) except that of e2: Groups' value climate & culture variables. This means to suggest that subcategorizes, namely b1 and e1 are same, b3 and e3 are same, b4 and e4 are same, except b2 and e2. b2 includes the aspects of Individuals' value, climate and culture related variables and e2 includes the aspects of groups' value, climate and culture related variables. Sector f consisted the aspects related to group effectiveness and sector g consisted mainly of organization level outcome in terms of effectiveness.

Pattern of relationship among seven categories of the constructs was postulated at conceptual level. This pattern is depicted in Figure 5, Figure 6, and Figure7. It



should be noted that these Figures also include some "additional variables" which were categorical in nature, and were used only in specific analysis. They do not belong to the sectors as such for most of the analysis.

### **Categories of Variables and their Dimensions**

The list of the various factors of major variables obtained through factor analysis is given below. This list corresponds with Figure 5.

#### **Sector a: Individual characteristics**

##### **Maturity**

1. Willingness for High Responsibility and Achievement (WRA).
2. Punctuality and Job Confidence (PJC)
3. Job Knowledge and Understanding (JKU)

##### **Individual Behavior Norm**

4. Hard work, punctuality and high Initiative (HPI)
5. (Professional) Opportunity Seeking and high Work Involvement (OSWI)

##### **Self Handicapping**

6. Inadequate Effort Investment (IEI)
7. Perceived constraints in Work and Lack of Confidence (PCWLC)
8. Lack of Initiative and Assertion (LIA)

##### **Procastination**

9. Perfectionism based Procastination (PP)
10. Fear of Failure based Procastination (FFP)

##### **Self Limiting Behavior**

11. (Presence) of Highly Qualified Persuasive Member (HQPM)
12. Unimportant or Meaningless Task (UMT)

13. Persuasive Member (PM)

Work Ethic

14. Work Ethic (WE)

Biographical Inquiry

15. Seniority (Sn)

16. Income and Status (IS)

Value Related Efforts

17. Valuing Social Relations and Activity at Work (VSRAW)

18. Valuing Comfortable Work Place (VCWP)

19. Valuing Work Perfection (VWP)

20. Lacking Power and Prestige Orientation, and Risk Taking (LPPORT)

Chinese Value Survey

21. Harmonious and Contentedness (HAC)

22. Having a Sense of Shame and Reciprocation (HSSR)

23. Intimate Friendship and Filial Piety (IFFP)

24. Kindness and Patience (KAP)

Learned Helplessness

25. Impaired Cognitive Functioning (ICF)

26. Uncontrollability of Events (UE)

Self Monitoring

27. Impression Management (IM)

28. Acting Ability (AA)

29. Congruence between Inner State and Self Presentation (CISSP)

Locus of Control

30. Internal Locus of Control (ILC)

- 31. External Locus of Control (ELC)
- 32. Synergic or Mixed Locus of Control (SMLOC)

Private and Public Self Consciousness

- 33. Motivational and Affective (MA)
- 34. Reflective (R)
- 35. Self Consciousness in Public (SCP)

Private and Public Self Awareness

- 36. Self Awareness (SA)
- 37. Positive Group Feeling (PGF)

**Sector b: Contingency variables**

Sub-sector b1: Task characteristics

Task Significance

- 38. Task Significance (TS)

Autonomy

- 39. Autonomy (A)

Skill Variety

- 40. Simple Job and Repetition of Tools (SJRT)

Problem Demands in Terms of Time

- 41. Time Constraint (TC)

Quality Assurance

- 42. Quality Assurance (QA)

Performance Rating

- 43. Group's Physical and Affective Caring (GPAC)

#### Task Identity

44. Task Identity (TI)

#### Work Schedule

45. Convenient Work Schedule (CWS)

46. Hours of Work (HW)

#### Task Difficulty

47. Time Investment and Outcome Assurance in Tasks (TIOAT)

#### Subsector b2: Individual's Value Climate and Culture Characteristics

##### Achievement Power and Affiliatory Relations

48. Achievement and Power Orientation (APO)

49. Affiliatory Relations (AR)

##### Individual Effort Performance

50. Effort Investment (EI)

##### Effort Performance Expectancy

51. Hard Work Ethic of the Group (HWEG)

##### Performance Reward Expectancy

52. Performance Reward Expectancy (PRE)

53. Expectation of Promotion with More Effort on Job (EPWMEJ)

##### Learning (as a Value)

54. Learning as a Value (LV)

55. Valuing Independence and Intellect (VII)

##### Organizational Commitment

56. Organizational Commitment (OC)

##### Personal Relations to Group Members

57. Informal Close but Task Oriented Relations (ICTOR)

## Individual's Functional Place in Group

58. Contribution to and the Recognition by the Group (CRG)

### Sub-sector b3: Organizational Support

#### Facilitating Organizational Climate

59. Facilitating Climate of Work Unit (FCWU)

#### Motivation Management Plans

60. Conducive Motivation Management (CMM)

#### Equitable Reward System

61. Equitable Reward System (ERS)

#### Organization Norms and Values

62. Participatively Structured Organization Norms and Values (PSONV)

63. Autocratic, Bureaucratic Values (ABV)

#### Organizational Climate

64. Non Work Norms (NWN)

65. Work Pressure (WP)

66. Technologically Conducive Work Condition (TCWC)

### Sub-sector b4: Management Practices

#### Supportiveness and Hostility of the Environment

67. Rapidly Changing Price, Competitors and Policies (RCPCP)

68. Dynamic Environment (DE)

69. Non Rapidly Changing Technology and Economy (NRCTE)

#### Friendship Opportunities

70. Friendship Opportunities (FO)

#### Growth Opportunities

71. Growth Opportunities (GO)

## Social Facilitation

72. Social Facilitation (SF)

## Feedback

73. Feedback (Fb)

## Group Growth Consideration

74. Group Growth Consideration (GGC)

## Quality Concern

75. Quality Concern (QC)

## Management Support

76. Management Support (MS)

## Reinforcement

77. Negative Reinforcement (NR)

## Transformational Leadership Style

78. Transformational Leadership Style (TLS)

## Quality of Work Life Considerations

79. Job Autonomy (JA)

80. Lack of Variety (LOV)

## **Sector C: Individual Effectiveness**

### Need Structure

81. Need for Affection and Including (NAI)

82. Capacity for Effective Dealing with Self (CEDS)

83. Effectiveness Potential (EP)

84. Potential Awareness and Capacity to Work in the Dilemmas of Life (PACWDL)

All the factors in this scale were derived variables, measuring satisfaction with

need structure.

#### Individual Need Fulfillment

85. Fulfillment of Recognition and Autonomy Needs (FRAN)

86. Fulfillment of Security and Altruistic Needs (FSAN)

#### Need Hierarchy Scale

87. Physiological Needs Satisfaction (PNS)

#### Value Realization

88. Satisfaction with Job-prestige and Patriotism (SJPP)

89. Satisfaction with Comfortable Living (SCL)

90. Satisfaction with Excellent Work Condition (SEWC)

91. Satisfaction with Omnibus Success (SOS)

92. Satisfaction with Own People Success Archetype (SOPSA)

All the factors in this scale were derived variables.

#### **Sector d: Group Characteristic Variables**

##### Group Behavior Scale

93. Effective Performance Group Norms (EPGN)

94. Structured Performance Group Norms (SPGN)

##### Group Size

95. Group Size (GS)

##### Formalization

96. Formalization (F)

##### Bureaucratization

97. Bureaucratization (B)

### Nature of Group

98. Formal, Interest, Friendship and Primary Group (FIFPG)

99. Command And Task Group (CATG)

### Group Behavior Norm

100. Participation Norm (PN)

### Role Identity

101. Role Efficacy (RE)

### Span of Control

102. Span of Control (SOC)

### Stratification

103. Stratification (S)

## **Sector e: Contingency Variables**

### Sub-sector e1: Task Characteristics

It should be noted that factors for subsector e1 are the same as factors belonging to subsector, b1, "Task Characteristics", therefore they are not being mentioned here.

### Sub-sector e2: Groups' Value, Climate ,and Culture Characteristics

#### Group Task Motivation

104. Group's Participative Orientation (GPO)

105. Group's Motivation for Goal Oriented Activity (GMGOA)

#### Goal Setting

106. High Performance Goals (HPG)

#### Informal Personal Relations

107. Informal Personal Relations Facilitative of Work Activities (IPRFLWA).

108. Informal Personal Relations Facilitative of Leisure Activities (IPRFLA)



## Interpersonal Trust at Work

109. Interpersonal Trust in Work Group (ITWG)

## Managerial Role Rating

110. Role Enactment of Entrepreneur, Negotiator, Figure Head, and Resource Allocator (REENFR).

111. Monitor and Disseminator Roles (MDR)

## Role Relationship

112. Close Feeling and Initiative with Subordinates (CFIWS)

113. Close Feeling with Immediate supervisor (CFIS)

114. Close Feeling, Task Initiative and Rewarding Relationship (CFTIRR)

Subsector e3: Organization Support and Subsector e4: Management Practices.

The factors of subsectors e3 and e4 are same as factors of subsectors b3 and b4 respectively, hence they are not mentioned here.

## **Sector f: Group Effectiveness**

### Group Learning

115. Group Learning (GL)

### Group Growth Level

116. Job Enriched at Group Level (JEGL)

### Special Reward

117. Group's Recognition (GR)

### Group Goal Accomplishment

118. Group Goal Accomplishment (GGA)

### Group Cohesiveness

119. Cooperative, Vigorous and Efficient Fellow Workers (CVEFW)

120. Quarrelsome, Selfish and Belligerent Fellow Workers (QSBFW)

**Sector g : Organizational Effectiveness**

**Control of the Surrounding Environment**

121. Actual Innovation (AI)

122. Premium on Incorporation of the Milieu (PIM)

123. Absenteeism (A)

124. Premium on Adaptability to Suppliers, Customers and Competitors (PASCC)

125. Potential Innovation (PI)

**Team Building**

126. Team Building (TB)

**Espirit de Corps**

127. Esprit de Corps (EDC)

Owing to paucity of time and resources it was difficult to do a thorough testing of represented pattern of relationships among all the variables. Although, within limitation, it was attempted to explore the relationships among the major constructs. However, the definite causal linkage among variables is not claimed for the reason that much more data, may be more sophisticated data analysis technique is required for the purpose.

The statistical analysis was started with the canonical correlations, exploring the relationship among seven major constructs in the study. The exploration basically followed the conceptual model depicted in Figure 5. That is to say sector a was related to sector c, sector b was related to sector c, sector d and sector e were related to sector f, sector c was related to sector f, and sectors c and f were related to sector g.

## Some Research Questions: Relating the Variables Belonging to the Categories in the Primary Conceptual Scheme

With regard to the relationships among the various sectors, certain specific questions were raised. They were as follows.

Question 1. What are the relationship between the dimensions of individual characteristic and individual effectiveness variables?

This meant relating sector a with sector c. Canonical correlation (CC) was calculated to answer this question. To interpret canonical correlation results, an arbitrary criterion of  $\pm 0.30$  was used as an index of importance of a variable within a particular set of variables or canonical variate. Such a stand has been taken elsewhere also (Hair, Anderson, Tatham, & Grablovsky, 1979; Lambert & Durand, 1975). Apart from tabular presentation, only those canonical correlation results would be described in detail that consist Simultaneously of both the left and right hand variates having loadings of  $\pm 0.30$ . That is, a CC results would not be described if on either variate, no loading turnout to be equal to or greater than 0.30. Canonical loadings rather than canonical weights were used in the analysis. Canonical loading statistic offers the advantage over the weight statistic by being largely free from the direct influence of multicollinearity and suppresser effects (Lambart & Durand, 1975). Apart from the canonical roots, a redundancy index (Rdx) was also calculated. The canonical roots provide the estimates of the amount of shared variance extracted from the set of variables. Often very little of the dependent variance is shared with independent variables although canonical root values are sometimes very high. The redundancy index overcomes this difficulty (Lambart & Durande, 1975).

Table - 3

Canonical Correlation showing relationship between the dimensions of Individual characteristic variables and Individual Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
WRA	-06	-52
PJC	-03	-21
JKU	-03	-44
HPI	-08	02
OSWI	-07	-02
IEI	-01	-05
PCWLC	-07	12
LIA	-07	15
PP	-01	26
FFP	-01	20
HQPM	-05	26
UMT	-04	17
PM	-11	00
WE	06	15
S	05	-17
IS	08	08
VSRAW	-03	11
VCWP	-01	14
VWP	-07	02
LPPOINT	-05	01
ICF	1.28	-01
UE	1.28	-01
IM	-05	-02
AA	07	10
CISSP	01	09
MA	08	08
R	-01	08
SCP	-01	-02
PGF	-14	14

table continues...

table - 3 continued..

Variables	Set 1 Loadings	Set 2 Loadings
Right Hand Set		
SHAC	-00	-05
SHSOSAR	09	03
SIFAFP	30	23
SKAP	95	-35
NAI	-01	15
CEDS	-00	13
SEP	01	22
SPACWOL	-00	-26
NSPDCDS	-02	-58
FRAN	01	25
FSAN	-01	35
SJPP	-02	-36
SOPSA	-00	-05
SCL	-02	03
SEWC	01	-05
SOS	00	11
RC	.99473	.65952
RC <sup>2</sup>	.98949	.43497
Chi Square	1600.32	566.23
df	464	420
p>	.01	.01
Variable LHS	.11590	.03097
Rdx LHS	.11468	.01347
Variable RHS	.22670	.02431
Rdx RHS	.22432	.01057

Table 3 presents the results of CC in which Left Hand variate composed of variables of individual characteristic (Sector a) was related to Right Hand variate composed of individual effectiveness variables (Sector c). Two CCs turned out to be significant ( $p \leq 0.01$ ).

The first CC results ( $RC = .99$ ,  $RC^2 = .98$ ,  $\chi^2(464) = 1600.32$ ,  $p \leq 0.01$ ) showed that Left Hand variate was significantly related to Right Hand variate. Both variates mutually shared 23 per cent variance (it may please be noted that in description, the derived values such as squares or square roots of a number may not exactly tally because they had been individually rounded off to two places after decimal from a four places after decimal number, for instance. 0.98 is not the exact square of 0.99 in this case. However in tabular presentation these values are expressed upto four places after decimal). The redundancy index (0.22432) for Right Hand variate composed of Individual Effectiveness Related Variables showed that 0.22432 of the total variance (0.22670) in the Right Hand canonical variate was shared with variance in or explained by the Left Hand canonical variate. Redundancy values, in a way, may also be expressed in terms of percentage. Therefore the redundancy values are expressed up to four places rather than two places after decimal for easy visualization in terms of percentage. Thus the redundancy in this case may be thought in terms of percentage. Thus the redundancy in this case may be thought in terms of 22.43 per cent of variance "explained" in the right hand variate by the left hand variate. However, technically it is more precise to express redundancies as the proportion only, that is, as 0.22432 in this case. The first Left Hand Variate could be thought of a loaded with impaired cognitive functioning, uncontrollability of events. This Left Hand Variate was

related significantly to Right Hand Variate that was loaded positively with satisfaction with intimate friendship and filial piety and satisfaction with kindness and patience.

The second CC results ( $RC = 0.66$ ,  $RC^2 = 0.43$ ,  $\chi^2(420) = 566.23$ ,  $p \leq 0.01$ ) showed that Left Hand Variate was related significantly to Right Hand variate. Both the variates mutually shared 43 per cent variance. The redundancy index (.01057) for Right Hand Variate composed of individual effectiveness related variables showed that 0.01057 of the total variance (.02431) in the Right Hand canonical variate was shared with variance in or "explained" by the Left Hand canonical variate. The second Left Hand variate could be thought of loaded negatively with willingness for high responsibility and acceptance, job knowledge and understanding. This Left Hand variate was related significantly to Right Hand variate that was loaded negatively with satisfaction with kindness and patience. Nonsatisfaction with potentially decreased capacity to deal with self, satisfaction with job prestige and patriotism, This Right Hand variate was loaded positively with fulfillment of security and altruistic needs.

Question 2. What are the relationships between the dimensions of individual tasks characteristic variables and individual effectiveness considerations?

This meant relating sector (b1) with sector (c) Table 4 shows results of CC in which Left Hand Variate compared of individual task characteristic variables (sector b1) was related to Right Hand variate composed of factors of individual effectiveness variables (sector c). One CC  $p \leq .01$  turned out to be significant.

The CC results ( $RC = .52$ ,  $RC^2 = .27$ ,  $\chi^2(80) = 147.233$ ,  $p \leq .01$ ) showed that sector b1 is significantly related to sector c. Both the variates mutually share 10 per cent variance. Rdx (0.027) for Right Hand Variate showed that 0.027 out of total variance (0.10205) in Right Hand Variate was shared with Variance in Left Hand

Table - 4

Canonical Correlation showing relationship between the dimensions of  
Task characteristic variables and Individual Effectiveness variables

Variables	Set 1 Loadings
Left Hand Set	
TS	78
TI	67
A	80
SJRT	07
TC	-14
Right Hand Set	
SHAC	-04
SHSOSAR	12
SIFAFP	-04
SKAP	60
NAI	34
CEDS	42
SEP	-16
SPACWDL	00
NSPDCDS	63
FRAN	57
FSAN	30
SJPP	-31
SOPSA	34
SCL	15
SEWC	-01
SOS	-02
RC	0.51881
RC <sup>2</sup>	0.26916
Chi Square	147.23276
df	80
p>	.01
Variance LHS	0.34523
Rdx LHS	0.09292
Variance RHS	0.10205
Rdx RHS	0.02747



Variate. The first Left Hand Variate could be thought to be loaded positively with task significance, task identity and autonomy. This variate was related significantly to Right Hand Variate that was loaded positively with satisfaction with kindness and patience, need for affection and including, capacity for effective dealing with self, nonsatisfaction with potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs, satisfaction with own people success archetype. This variate was loaded negatively with satisfaction with job prestige and patriotism.

Question 3. What are the relationships between the dimensions of individual value, climate culture variables and the dimensions of individual effectiveness considerations?

This meant relating sector (b2) with sector (c) Table 5 shows results of CC in which Left Hand Variate composed of individual value, climates culture variables (sector b2) was related to Right Hand Variate composed of factors of individual effectiveness variables (sector c). Two CC turned out to be significant at .01 level of significance.

The first CC results ( $RC = .65$ ,  $RC^2 = .42$ ,  $\chi^2 (160) = 287.180$ , ( $P \leq 0.01$ ) showed that sector b2 is significantly related to sector c. Both the variates mutually share 42 percent variances  $R_{dx}$  (0.0965) for Right Hand Variate showed that .0965 out of total variance .23086 in Right Hand Variate was shared with variance in Left Hand Variate. The first Left Hand Variate could be thought to be loaded positively with, achievement and power orientation, affiliatory relations, effort investment, learning as a values, valuing independence and intellect, contributing to and recognition by the group, hard work ethic of the group, performance reward expectancies, expectation of promotion with more effort on job. This variate was related significantly to Right Hand variate that was loaded positively with having a sense of shame and

Table - 5

Canonical Correlation showing relationship between the dimensions of Value  
Climate & Culture variables and Individual Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
APO	44	15
AR	32	-13
EI	76	-13
LV	76	-45
VII	72	-05
ICTOR	29	-04
CRG	91	19
HWEG	77	06
PRE	66	-11
EPMEJ	62	08
Right Hand Set		
SHAC	14	16
SHSOSAR	46	10
SIFAFP	-09	-05
SKAP	73	-17
NAI	56	-11
CEDS	74	00
SEP	-04	07
SPACWDL	-19	-08
NSPDCDS	80	-20
FRAN	91	05
FSAN	67	31
SJPP	-29	33
SOPSA	-11	01
Rdx RHS	0.09647	0.00446

table continues...

table - 5 continued..

SCL	13	-01
SEWC	06	20
SOS	03	12
RC	0.64643	0.42551
RC <sup>2</sup>	0.41788	0.18106
Chi Square	287.17972	159.21620
df	160	135
p>	.01	.01
Variance LHS	0.43139	0.03180
Rdx LHS	0.18027	0.00576
Variance RHS	0.23086	0.02463

reciprocation, kindness and patience, need for affection and including, capacity for effective dealing with self, non-satisfaction with potentially decreased capacity to deal with self, fulfillment of recognition, and autonomy needs, fulfillment of security and altruistic needs.

The second CC results showed significant relationship between the two sets of variables ( $RC = 0.43$ ,  $RC^2 = 0.18$ ,  $\chi^2 (135) = 159.216$ ,  $p \leq 0.01$ ). Both the sets mutually shared 18 percent variance. Rdx (0.004) out of total variance (0.02463) in Right Hand set composed of Individual effectiveness considerations was shared with variance in or "explained" by Left Hand Set composed of individual value climate culture related variables. The second Left Hand set was loaded negatively with learning as a value. This set was related significantly to Right Hand set that was loaded positively with fulfillment of security and altruistic needs, satisfaction with job prestige and patriotism.

Question 4. What are the Relationships between organizational support variables and individual effectiveness considerations?

This meant relating sector (b3) with sector (c). Table 6 shows the results in which Left Hand variate composed of organizational support variables (sector b3 ) was related to individual effectiveness variable (sector c). Three CC turned out to be significant at .01 level of significance.

The first CC results ( $RC = .58$ ),  $RC^2 = .33$ ,  $\chi^2 (112) = 235.70$ , ( $p \leq .01$ ) showed that sector b3 is significantly related to sector c. Both the variates mutually share 33 percent of variance. Rdx (.03150) for Right Hand Variate showed that 0.03150 out of total variance 0.09520 in Right Hand variate was shared with variance in Left Hand variate. The Left Hand variate could be thought to be loaded positively with, facilitative

Table - 6

Canonical Correlation showing relationship between the dimensions of Organizational Support variables and Individual Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings	Set 3 Loadings
Left Hand Set			
FCWU	95	09	-09
CMM	82	-06	-02
PSOINV	74	-06	-21
ABV	-23	-15	05
NWN	-31	-49	17
WP	27	02	47
TCWC	31	14	24
Right Hand Set			
SHAC	06	-08	00
SHSOSAR	11	02	14
SIFAFP	16	02	21
SKAP	33	25	09
NAI	14	-17	22
CEDS	29	-20	04
SEP	-06	01	22
SPACWDL	-25	13	21
SPDCDS	25	-05	11
FRAN	71	17	-04
FSAN	45	04	06
SJPP	34	-15	17
SOPSA	13	-07	17
SCL	12	-15	42
SEWC	47	-10	-06
SOS	25	14	-00
RC	0.57519	0.40004	0.36746
RC <sup>2</sup>	0.33085	0.16004	0.13503
Chi Square	235.69675	140.08173	98.57552
df	112	90	70
p>	.01	.01	.01
Variance LHS	0.35047	0.04278	0.05191
Rdx LHS	0.11595	0.00685	0.00701
Variance RHS	0.09520	0.01668	0.02911
Rdx RHS	0.03150	0.00267	0.00373

climate of work units, conducive motivation management, participatively structured organizational norms and values, technologically conducive work condition. This variate was loaded negatively with nonwork norms. The Right Hand variate could be thought to be loaded positively with satisfaction with kindness and patience, fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs, satisfaction with job prestige and patriotism, satisfaction with excellent work condition.

The second CC results would not be described as the Right Hand variate did not have loading equal to or more than + .30.

The third CC results ( $RC = .37$ ,  $RC^2 = .14$ ,  $\chi^2 (70)$ , 98.58 ( $p \leq .01$ ) showed that sector b3 is significantly related to sector c. Both the variates mutually shared 14 percent variance. Rdx (.00393) for Right Hand Variate showed that 0.00393 out of total variance 0.02911 in Right Hand Variate was shared with variance in Left Hand Variate. The Left Hand Variate was marked by the presence of work pressure.

The Right Hand variate was marked by the presence of just one factor i.e., satisfaction with comfortable living.

Question 5. What are the relationship between the dimensions of management practices variables and individual effectiveness variables?

This meant relating sector (e) with sector (f). Table 7 shows the results of CC in which Left Hand variate composed of variables of management practices was related to Right Hand variate composed of variables of individual effectiveness characteristics. Two CCs turned out to be significant.

The first CC results showed that both canonical variate mutually shared 34 per cent variance. The first Left Hand variate could be thought to be loaded positively with rapidly changing price, competitors and policies, dynamic environment,

Table - 7

Canonical Correlation showing relationship between the dimensions of Management Practices variables and Individual Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings	Set 3 Loadings
Left Hand Set			
RCPCP	39	-14	-26
DE	47	12	21
NRCTE	-04	13	-31
FO	34	37	-22
GO	48	49	-47
SF	37	64	-23
F	71	28	-27
GGC	65	49	-43
QC	63	43	-13
MS	63	68	08
TLS	32	42	-42
ERS	21	33	-42
JA	43	08	-19
LV	18	37	-24
Right Hand Set			
SHAC	-21	26	-15
NSHSSR	-27	56	-21
SIFAFP	07	-16	-30
SKAP	17	30	-24
NAI	-30	25	-60
CEDS	10	18	-47
SEP	01	-13	-14
SPACWDL	-17	-40	-03
NSPDCDS	-05	33	-37
FRAN	63	21	-21
FSAN	17	67	15
SJPP	38	03	-00
SOPSA	10	09	-29
SCL	-07	32	-38

table continues...

table - 7 continued..

Variables	Set 1 Loadings	Set 2 Loadings	Set 3 Loadings
SEWC	34	12	-24
SOS	27	-07	13
RC	0.58014	0.52245	0.47244
RC <sup>2</sup>	0.33656	0.27295	0.22320
Chi Square	391.8090 8	295.58810	220.83774
df	224	195	168
p>	.01	.01	.01
Variance LHS	0.20999	0.15930	0.08942
Rdx LHS	0.07068	0.04348	0.01996
Variance RHS	0.06597	0.09422	0.08926
Rdx RHS	0.02220	0.02572	0.01992



friendship opportunities, growth opportunities, social facilitation, feedback, group growth considerations, quality concern, management support, transformational leadership style, job autonomy. The Right Hand Variate was loaded positively with fulfillment of recognition and autonomy needs, satisfactory with job prestige and patriotisms, satisfaction with excellent work condition, and was loaded negatively with need for affection and inclusion.

The second CC results showed that both sets of variables mutually shared 27 per cent variance. The second Left Hand Variate could be thought of as representing a situation which was marked by the presence of factors such as friendship opportunities, growth opportunities, social facilitation, group growth considerations, management support, transformational leadership style, equitable reward system, learning as a value. This variate was related significantly to Right Hand Variate that could be thought as representing a situation that was marked by presence of factors such as satisfaction with having a sense of shame and reciprocation, satisfaction with kindness and patience, non satisfaction with potentially decreased capacity to deal with self, fulfillment of security and altruistic needs, satisfaction with comfortable living but was lacked in terms of factor namely potential awareness and capacity to work in the dilemmas of life.

The third CC results showed that both sets of variables mutually shared 22 per cent variance. The third Left hand variate could be thought of as representing a situation which lacked in terms of the factors namely nonrapidly changing technology and economy, growth opportunities, group growth consideration, transformational leadership style, equitable reward system. This variate was related significantly to the Right Hand Variate. The Right Hand Variate could be thought as loaded negatively with factors named as satisfaction with intimate friendship and filial piety, need for

affection and including, capacity for effective dealing with self, non satisfaction with potentially decreased capacity to deal with self, satisfaction with comfortable living.

Question 6. What are the dimensions of individual effectiveness variables and group effectiveness variables?

This meant relating sector c with sector f. Table 8 presents the CC in which individual effectiveness variables (sector c) were related to group effectiveness variables (sector f). Both the variates mutually shared 29 per cent variance. The Left Hand Variate could be thought as loaded positively with satisfaction with kindness and patience, capacity for effective dealing with self, potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs. This Left Hand Variate was related significantly to Right Hand Variate. The Right Hand Variate could be thought of as loaded positively with group learning, job enriched at group level, group's recognition, group goal accomplishment, cooperative, vigorous and efficient fellow workers. This variate could be thought of as loaded negatively with quarrelsome, selfish, and belligerent fellow workers.

Question 7. What are the relationship between the dimensions of individual effectiveness variables and organizational effectiveness variables?

To answer this question sector c was related with sector g. Table 9 presents the CC in which Left Hand Variate composed of dimensions of individual effectiveness variables (sector c) was related to organizational effectiveness variables (sector g). Two canonical correlations turned out to be significant.

The first CC ( $RC = 0.48$ ,  $RC^2 = .23$ ,  $\chi^2(96) = 163.21724$ ,  $p \leq 0.01$ ) showed that both the variates mutually shared 23 per cent variance. The first Left Hand Variate

Table - 8

Canonical Correlation showing relationship between the dimensions of Individual Effectiveness variables and Group Effectiveness variables

Variables	Set 1 Loadings
Left Hand Set	
SHAC	-25
SHSOSAR	-02
SIFAFP	09
SKAP	56
NAI	18
CEDS	34
SEP	-06
SPACWDL	-18
NSPDCDS	43
FRAN	86
FSAN	33
SJPP	25
SOPSA	23
SCL	01
SEWC	22
SOS	17
Right Hand Set	
GL	96
JEGL	68
GR	65
GGA	37
CVEFW	38
QSBFW	-48
RC	0.53628
RC <sup>2</sup>	0.28759
Chi Square	170.76933
df	96
p>	.01
Variance LHS	0.11180
Rdx LHS	0.03215
Variance RHS	0.38541
Rdx RHS	0.11084

Table - 9

Canonical Correlation showing relationship between the dimensions of Individual Effectiveness variables and Organizational Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
SHAC	32	-24
SHSOSAR	19	27
SIFAFP	26	-18
SKAP	46	18
NAI	09	-17
CEDS	32	-12
SEP	-10	-05
SPACWDL	01	-10
NSPDCDS	34	-02
FRAN	89	17
FSAN	51	24
SJPP	69	-16
SOPSA	36	04
SCL	37	-31
SEWC	55	17
SOS	14	16
Right Hand Set		
AI	96	-07
PIM	86	-27
Ab	-44	01
PASCC	87	-28
TB	94	37
EDC	1.00	25
RC	0.47640	0.38558
RC <sup>2</sup>	0.22695	0.14868
Chi Square	163.21724	101.82355
df	96	75
p>	.01	.01
Variance LHS	0.17355	0.03222
Rdx LHS	0.03939	0.00479
Variance RHS	0.79626	0.05975
Rdx RHS	0.18071	0.00888

could be thought of representing the situation that was marked by the presence of factors such as satisfaction with kindness and patience, capacity for effective dealing with self, nonsatisfaction with potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, satisfaction with job prestige and patriotism, satisfaction with own people success archetype, satisfaction with comfortable living, satisfaction with excellent work condition. This Variate was related significantly to Right Hand Variate, that was marked by the presence of factors such as actual innovation, premium on incorporation of the milieu, premium on adaptability to suppliers, customers and competitors, team building, and Espirit de corps.. But this variate lacked in the factor absenteeism.

The second canonical correlation showed that both the variates mutually shared 15 per cent variance. The Left Hand Variate could be thought as loaded negatively with satisfaction with comfortable living. The Right Hand Variate could be thought as loaded positively with team building.

Question 8. What are the relationships between the dimensions of group characteristic variables and group effectiveness variables?

This meant relating sector (d) with sector (f). Table 10 presents results of CC in which left Hand variate composed of dimensions of group characteristic variables (sector d) was related to group effectiveness variables (sector f). Two CCs out of possible five turned out to be significant.

The first CC results showed that both the variate could be thought of as representing a situation that was marked by presence of factors such as role efficacy, effective performance group norms, structural performance group norms, stratification, formalization, bureaucratization, formal interest, friendship and primary group, command and task group. This variate was related significantly to Right

Table - 10

Canonical Correlation showing relationship between the dimensions of Group Characteristic variables and Group Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
RE	60	15
EPGN	68	75
SPGN	39	56
SOC	-07	24
S	64	06
F	80	-44
B	90	01
FIFPG	75	-33
CATG	86	18
GS	23	35
Right Hand Set		
GL	1.00	-02
JEGL	1.00	33
GR	1.00	-10
GGA	98	17
CVEFW	22	71
QSBFW	18	-84
RC	0.64352	0.45814
RC <sup>2</sup>	0.41412	0.20989
Chi Square	228.81616	99.70059
df	60	45
p>	.01	.01
Variance LHS	0.42082	0.14236
Rdx LHS	0.17427	0.02988
Variance RHS	0.76300	0.22402
Rdx RHS	0.31597	0.4702

Hand Variate that represented a situation which was marked by presence of factors such as group learning, job enriched at group level, group's recognition and group goal accomplishment.

The second CC results showed that both canonical variate shared 21 per cent variance. The second Left Hand Variate represented a situation that was marked by presence of factors such as, effective performance group norms, structural performance group norms, group size but was lacked in terms of factors namely formalization, formal interest friendship and primary group. This Left Hand Variate was significantly related to Right Hand Variate, which was marked by presence of factors such as vigorous and efficient fellow workers but lacked in terms of factor, namely quarrelsome, selfish, belligerent fellow workers.

Question 9. What are relationships between the dimensions of task characteristic variables and dimensions of group effectiveness considerations?

Table 11 presents results of CC in which Left Hand Variate Composed of dimensions of task characteristic variables (sector e1) was related to Right Hand Variate composed of dimensions of group effectiveness Considerations (sector f). one CC turned out to be significant.

The CC results showed that both the variates mutually shared 36 per cent variance. The Left Hand Variate could be thought to be loaded positively with quality assurance, group's physical and affective caring, hours of work. This Left Hand Variate was related significantly to Right Hand Variate that was loaded positively with group learning, job enriched at group level group's recognition, group goal accomplishment, cooperative, vigorous and efficient fellow workers.

Table - 11

Canonical Correlation showing relationship between the dimensions of Group Task Characteristic variables and Group Effectiveness variables

Variables	Set 1 Loadings
Left Hand Set	
QA	98
GPAC	81
CWS	21
HW	65
TIOAT	27
Right Hand Set	
GL	88
JEGL	1.00
GR	66
GGA	1.00
CVEFW	44
QSBFW	-12
RC	0.60088
RC <sup>2</sup>	0.36106
Chi Square	142.93266
df	60
p>	.01
Variance LHS	0.43288
Rdx LHS	0.15629
Variance RHS	0.60797
Rdx RHS	0.21951



Question 10. What are the relationship between the dimensions of value climate and culture variables and dimensions of group effectiveness variables?

Table 12 presents results of CC in which Left Hand Variate composed of dimensions of value culture and climate variables (sector e2) was related to Right Hand Variate composed of dimensions of group effectiveness considerations (sector f). Two canonical correlations turned out to be significant.

The first CC results showed that both the variates mutually shared 37 per cent variance. The Left Hand variate could be thought to be loaded positively with group's participative orientation, groups' motivation for goal oriented activity, high performance group, interpersonal trust in work group, role enactment of entrepreneur negotiator, Figurehead and resource allocator, monitor and disseminator roles. This Left Hand variate was related significantly to Right Hand variate that was loaded positively with group learning, job enriched at group level, group's recognition, group goal accomplishment and cooperative and efficient fellow workers.

The second CC results showed that Left Hand Variate shared 14 per cent variance with Right Hand Variance. The Left Hand variate could be thought to be loaded positively with monitor and disseminator roles and negatively with group's motivation for goal oriented activity. This Left Hand Variate was related significantly to Right Hand variate that was loaded positively with cooperative, vigorous and efficient fellow workers and loaded negatively with a group's quarrelsome, selfish, and belligerent fellow workers.

Question 11. What are the relationships between the dimensions of organization support and dimensions of group effectiveness considerations?

The Canonical Correlations was calculated to answer this question. Table 13 presents results of CC in which Left Hand Variate composed of variables of

Table - 12

Canonical Correlation showing relationship between the dimensions of Group Value climate Culture variables and Group Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
GPE	75	24
GMGOA	1.00	-31
HPG	87	27
ITWG	80	29
REENFR	93	-15
MADR	68	40
CFIWS	-06	-04
CFIS	-26	-21
CFTIRR	-01	-14
Right Hand Set		
GL	1.00	-10
JEGL	1.00	23
GR	1.00	-48
GGA	1.00	-04
CVEFW	43	50
QSBFW	-20	-38
RC	0.61172	0.36918
RC <sup>2</sup>	0.37420	0.13630
Chi Square	179.48708	66.05688
df	54	40
p>	.01	.01
Variance LHS	0.49856	0.06240
Rdx LHS	0.18656	0.00851
Variance RHS	0.80639	0.11614
Rdx RHS	0.30175	0.01583

Table - 13

Canonical Correlation showing relationship between the dimensions of  
Organizational Support variables and Group Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings	Set 3 Loadings
Left Hand Set			
FCWV	94	-10	-21
CMM	1.00	11	14
PSONV	1.00	-07	-23
ABV	-54	30	06
NWN	-59	68	-15
WP	38	16	17
TCWC	63	22	-18
Right Hand Set			
GL	1.00	-12	03
JEGL	72	-31	-19
GR	67	25	49
GGA	79	22	-13
CVEFW	08	16	04
QSBFW	-06	70	-04
RC	0.73447	0.44519	0.33039
RC <sup>2</sup>	0.53944	0.19820	0.10915
Chi Square	286.66031	98.25993	44.58345
df	42	30	20
p>	.01	.01	.01
Variance LHS	0.66327	0.09261	0.02914
Rdx LHS	0.35780	0.01836	0.00318
Variance RHS	0.50008	0.12160	0.04882
Rdx RHS	0.26976	0.02408	0.00533

organization support (sector e4) was Related to Right Hand variate composed of variables of group effectiveness (sector f).

The first CC showed that both canonical variates mutually shared 54 per cent variance. The first Left Hand variate could be thought to be loaded positively with facilitating climate of work units, conducive motivational management, participatively structured norms and values, work pressure, technologically conducive work condition. organizational norms and values, nonwork norms. This Left Hand variate was related significantly to Right Hand variate which could be thought to be loaded positively with group learning, job enriched at group level, groups recognition group growth accomplishment.

The second CC showed that both Canonical variates mutually shared 20 per cent variance. The second Left Hand variate could be thought to be loaded positively with autocratic bureaucratic values, nonwork norms (3) This Left Hand variate was related significantly to Right Hand variate which could be thought to be loaded negatively with job enriched at group level quarrelsome, belligerent fellow workers.

The third CC would not be described as ~~the~~ Left Hand Variate factor loading is less than  $\pm .30$ .

Question 12. What are the relationship between dimensions of management practices variables and dimensions of group effectiveness variables?

This meant relating sector (e1) with sector (f). Table 14 shows the results of CC in which Left Hand variate composed of variables of management practices was related to Right Hand variate composed of variables of group effectiveness considerations. Four Canonical correlations turned out to be significant.

The first CC results showed that both canonical variate mutually shared 100 percent variance. The first Left Hand variate could be thought to be loaded positively with

Table - 14

Canonical Correlation showing relationship between the dimensions of Management Practices variables and Group Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings	Set 3 Loadings	Set 4 Loadings
Left Hand Set				
RCPCP	24	31	-44	26
DE	38	08	26	15
NRCTE	08	02	-06	33
FO	44	12	13	44
GO	67	31	-07	06
SF	73	26	-09	25
Fb	1.00	00	00	00
GGC	74	30	49	06
QC	72	22	16	-03
MS	71	29	-04	-28
TLS	57	49	19	-05
ERS	42	41	-00	-09
JA	40	17	15	25
LOV	45	02	-32	16
Right Hand Set				
GL	1.00	00	00	00
JEGL	42	63	-08	27
GR	44	47	-44	-06
GGA	43	46	49	12
CVEFW	06	-07	21	73
QSBFW	-02	-06	-51	29
RC	1.00	0.41872	0.36337	0.32855
RC2	1.00	0.17533	0.13204	0.10795
Chi Square	3787.01294	134.82040	88.65231	54.73772
df	84	65	48	33
p>	.01	.01	.01	.01
Variance LHS	0.34495	0.06720	0.03423	0.04588
Rdx LHS	0.34495	0.1178	0.00452	0.00495
Variance RHS	0.26026	0.13819	0.12313	0.13237
Rdx RHS	0.26026	0.02423	0.01626	0.01429

dynamic environment, friendship opportunities, growth opportunities, social facilitation, feedback, group growth concern, quality concern, management support, transformational leadership styles, equitable reward system, job autonomy, lack of variety. This Left Hand Variate was related significantly to Right Hand Variate which was marked by the presence of factors such as group learning, job enriched at group level, group's recognition, group goal accomplishment.

The second CC results showed that both canonical variates mutually shared 18 per cent variance. The second Left Hand Variate could be thought to be loaded positively with rapidly changing price, competitors policies, growth opportunities, group growth concern, transformational leadership style and equitable reward system. This variate was related to Right Hand Variate which was marked by the presence of factor named as job enriched at group level, groups' recognition, accomplishment.

The third CC results showed that the both the variates mutually shared 13 per cent variance. The first LH could thought to be loaded positively with group growth concern. And loaded negatively with rapidly changing price, competitors and policies, lack of variety. This Left Hand Variate was significantly related to Right Hand Variate which could be thought to loaded positively with group goal accomplishment and loaded negatively with group's recognition, quarrelsome, selfish and belligerent fellow workers.

The fourth CC results showed that the Left Hand Variate and the Right Hand Variate mutually shared 11 per cent variance. The Left Hand Variate was marked by the presence of factors namely nonrapidly changing technology and economy, friendship opportunities. The Left Hand variate was significantly related to Right Hand Variate, The RHV was marked by presence of factors, namely cooperative, vigorous and efficient fellow workers.

Question 13. What are the relationships between the dimensions of group effectiveness variables and organizational effectiveness considerations?

To answer this canonical correlation was calculated. Table 15 presents the results of CC in which Left Hand Variate Composed of variables of group effectiveness considerations (sector f) was related to Right Hand Variate composed of organizational effectiveness considerations (Sector g). One CC turned out to be significant at .01 level of significance.

The CC results ( $RC = .75$   $RC^2 = .56$   $\chi^2 (36) = 237.50$ ,  $p \leq .01$ ) showed that Left Hand Variate was significantly related to Right Hand Variate both the variates mutually shared 56 per cent variance. The redundancy index (0.46189) for Right Hand Variate composed organizational effectiveness considerations showed that 0.46189 of the total variance (0.82779) in the Right Hand Canonical variate was shared with variance in or explained" by the Left Hand Canonical Variate. The Left Hand Variate could be thought of as loaded positively with group learning, job enriched at group level, groups' recognition, group goal accomplishment. This Left Hand Variate was related significantly to Right Hand Variate that was loaded positively with actual innovation, premium on incorporation of the milieu, premium on adaptability to suppliers, customers and competitors, team building, Esprit de corps.

Question 14. What are the relationships among the dimensions of individual effectiveness, group effectiveness variables and organizational effectiveness variables?

This meant relating sector c, and sector (f) with sector (g). Table 16 presents the CC in which Left Hand Variate composed of dimensions of individual effectiveness variables (sector f) and group effectiveness variables (sector f) were related to

Table - 15

Canonical Correlation showing relationship between the dimensions of Group Effectiveness variables and Organizational Effectiveness variables

Variables	Set 1 Loadings
Left Hand Set	
GL	1.00
JEGL	.91
GR	.92
GGA	.93
CVEFW	.09
QSBFW	.01
Right Hand Set	
AI	1.00
PIM	.89
Ab	-.08
PASCC	.77
TB	1.00
EDC	.96
RC	0.74698
RC <sup>2</sup>	0.55798
Chi Square	237.49673
df	36
p>	.01
Variance LHS	0.69819
Rdx LHS	0.38958
Variance RHS	0.82779
Rdx RHS	0.46189



Table - 16

Canonical Correlation showing relationship between the dimensions of Individual Effectiveness, Group Effectiveness variables and Organizational Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
SHAC	17	-18
SHSOSAR	21	12
SIFAFP	10	-05
SKAP	25	-03
NAI	-03	-13
CEDS	11	-16
SEP	-05	00
SPACWDL	-08	-14
NSPDCDS	13	-12
FRAN	45	-23
FSAN	32	08
SJPP	36	-20
SOPSA	26	-04
SCL	17	-10
SEWC	39	11
SOS	16	04
Fb	1.00	03
JEGL	84	01
GR	85	-04
GGA	85	-23
CVEFW	10	21
QSBFW	01	09

table continues...

table - 16 continued..

Right Hand Set		
AI	97	-07
PIM	88	-26
Ab	-14	-08
PASCC	74	-19
TB	1.00	24
EDC	90	-30
RC	0.78255	0.45866
RC <sup>2</sup>	0.61238	0.21037
Chi Square	373.87576	150.68414
dF	132	105
p>	.01	.01
Variance LHS	0.20537	0.01649
Rdx LHS	0.12576	0.00347
Variance RHS	0.79206	0.04380
Rdx RHS	0.48505	0.00921

organizational, effectiveness variables, (sector g). Two canonical correlations turned out to be significant.

The first CC ( $RC = 0.78$ ,  $RC^2 = 0.61$ ,  $\chi^2 (132) = 373.87576$ ,  $p \leq 0.01$ ) showed that both the variates mutually shared 61 per cent variance. The first Left Hand Variate could be thought of representing the situation that was marked by presence of factors such as fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs, satisfaction with job prestige and patriotism, satisfaction with excellent work condition, feedback, job enriched at group level, group's recognition, group goal accomplishment. This variate was related significantly to Right Hand Variate that represented the situation which was marked by the presence of factors such as actual innovation, premium on incorporation of the milieu, premium on adaptability to suppliers, customers and competitors, team building and *Espirit de corps*.

The Second CC though significant but would not be described as no loading on Left Hand Variate turned out to be more than or equal to .30.

Question 15. What are the relationships between the dimensions of second order factor variables and individual effectiveness variables?

The requirement for canonical correlation here was due to making inquiry in some second order factors closely related to the second order individual effectiveness factors. This should be mentioned that factors of groups effectiveness and organizational effectiveness were not a part of inquiry. The result table (Table 17) shows that both the canonical correlations turned out to be significant ( $p \leq .01$ ).

The first CC result ( $RC = 0.59$ ,  $RC^2 = 0.30$ ,  $\chi^2 (28) = 131.21$ ,  $p \leq .01$ ) should that Left hand variate significantly related to the Right hand variate. Both the variates

Table - 17

Canonical Correlation showing relationship between the dimensions of  
Second Order Factors and Individual Effectiveness variables

Variables	Set 1 Loadings	Set 2 Loadings
Left Hand Set		
SF1	07	-04
SF2	-72	-46
SF3	60	09
SF4	70	04
SF5	40	30
SF6	12	59
SF7	08	31
SF8	03	79
SF9	20	-14
SF12	41	33
SF13	30	35
SF14	46	64
SF15	06	-01
SF16	-50	02
Right Hand Set		
SF10	97	34
SF11	48	85
RC	0.54853	0.41134
RC <sup>2</sup>	0.30089	0.16920
Chi Square	131.21	44.77
df	28	13
p>	.01	.01
Variance LHS	0.16593	0.13190
Rdx LHS	0.04993	0.02232
Variance RHS	0.58377	0.41775
Rdx RHS	0.17565	0.7068

mutually shared 58 per cent variance. The redundancy index (0.17565) for right hand variate composed of Individual effectiveness variables showed that 0.1756 of the total variance (0.58377) in the Right Hand Canonical variate was shared with variance in or "explained" by the Left Hand Canonical variate. The redundancy may be thought in terms of 17.56 per cent of variance" explained in the Right Hand variate by the Left Hand variate. The first Left Hand variate could be thought of loaded positively with SF3, SF4, SF5, SF12, SF13, SF14 and loaded negatively with SF2 and SF16. This Left Hand variate was related significantly to Right Hand variate that was loaded positively with SF10 and SF11.

The second CC result ( $RC = 0.41134$ ,  $RC^2 = .169$ ,  $\chi^2 (13) 44.77$ ,  $p \leq 0.01$ ) showed that Left Hand variate was significantly related to the Right hand variate. Both the variates mutually shared 42 per cent variance. The redundancy index (0.7068) for right hand variate composed of Individual effectiveness variables showed that 0.7068 of the total variance (0.41775) in the Right Hand canonical variate was shared with variance in or "explained" by the left Hand canonical variate. The redundancy may be thought in terms of 70.68 per cent of variance "explained" in the Right Hand variate by the Left Hand variate. The second Left Hand variate could be thought of loaded positively with SF5, SF6, SF7, SF8, SF12, SF13 and SF14 and loaded negatively with SF2. This Left Hand variate was significantly related to the Right hand variate which was loaded positively with SF10 and SF11.

Question 16. What is the strength of association of all the second order factors as the predictors and second order group effectiveness factor as the criterion variables?

Multiple regression analysis (MRA) were used in certain cases to find out the strength of association of a particular criterion variable with a number of predictor

variables. In some cases, it would be observed that a MRA is being calculated to see the same relationship which had already been explored earlier using canonical correlations. It is acknowledged that such repetition might be redundant nevertheless, since sometimes individual variables as criterion may be in the focus of attention, such regression analyses were made an additional inputs for understanding of "antecedents" or "predictors" of the criterion in a better way. Of course, when ever a singular dependent measure is focus of attention, MRA would be an analytical technique of choice because apart from the index of shared variances it also provides the measures of strength of associations and other useful information.

Stepwise multiple regression analysis was performed using "all" possible variables in the predictor set. However, in stepwise regression process, usually a step may be identified after with addition of subsequent variables add but less than one per cent of variance predicted. Due to large number of such addition of variables, the variables adding less than one percent of variance were dropped from the equation. Thus, a short listed regression equation would be reported in all MRA results. Hence, the "total" regression equation is provided with elementary information whereas shortlisted regression equation will be dealt with the detailed information both at result and discussion sectors. Two major things are to be noted in this regard. Firstly, there seems to be an agreement among statisticians that for each of variables included in the predictor set of a regression equation, there should be approximately 30 cases or respondents on which the data are based in order that the "prediction" be reliable. Secondly, there is tendency in multiple R coefficients computed from a sample to tend to be some what inflated with respect to the population R due to the accumulation of errors which may pile up since R is always taken as positive. On

obtained  $R^2$  (and consequently also the  $R$ ) can be "corrected, adjusted, or shrunken" to give a better measure of the population  $R^2$  by using the following formula.

$$R^2 = 1 - ((1 - R^2) (N - 1 / N - K - 1))$$

Where

$R^2$  = adjusted  $R^2$

$N$  = size of the sample

$K$  = no. of predictor variables

In the multiple regression analyses results reported in this study, the adjusted  $R^2$  values were used as a criterion for restricting the addition of those variables that added but less than one per cent of explained variance in the criterion. This, automatically restricted the no. of variables in the regression equation to less than 10 which could be treated as more or less appropriate considering the sample size of 250 respondents.

Results of multiple regression analysis (Table 18) in which variables marked by second order factors were treated as predictors and group effectiveness (SF17) as the criterion showed ( $F(8,241) = 38, p \leq 0.01$ ) that overall regression was significant. All the seven variables entered stepwise into the regression equation explained 60 per cent variance (Adjusted  $R^2 = .60$ ) in the criterion variable. All the variables turned out to be the significant predictors of group effectiveness. Of all the predictors, SF16 (nonenactment of certain managerial roles) was reflected as a negative predictor of group effectiveness. The positive predictors were SF6 consisting factors of group growth concern, quality concern, management support and transformational leadership style; SF14 consisting of group's participative orientation and group's motivation for goal oriented activity, SF12 mapping role efficacy, effective

Table - 18

Multiple Regression Analysis Results incorporating Second Order Factors as the Predictors and Second Order Group Effectiveness Factor as the Criterion

Variables	<u>n</u>	<u>R</u>	<u>R<sup>2</sup></u>	Adjusted <u>R<sup>2</sup></u>	Beta	<u>b</u>	Std Error of <u>b</u>	<u>t</u>
SF6	.63	.63	.39	.39	.30	.10	.02	5.25 **
SF14	.60	.73	.53	.53	.21	.51	.14	3.68 **
SF12	.51	.75	.56	.55	.21	.24	.06	4.08 **
SF13	.40	.76	.57	.57	.11	.24	.09	2.527 **
SF16	-.37	.76	.58	.58	-.11	-.23	.09	-2.48 **
SF8	.58	.77	.59	.58	.14	.11	.05	2.35 **
SF7	.23	.78	.60	.59	.09	.22	.11	2.14 **

ANOVA for Regression

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
Regression	738.01	8	92.2	38.0	.01
Residual	585.02	241	2.4		

\*\* =  $p < 0.01$



performance group norms, structured performance group norms, SF13 mapping formalization, bureaucratization; SF8 mapping facilitating organizational climate, conducive motivation management and lastly SF7 mapping rapidly changing environment, nonrapidly changing technology and economy.

Question 17. What is the strength of association of SF 6, SF 8, SF 16 as the predictors and second order group effectiveness as the criterion variable?

A multiple regression analysis was performed to see the relationship between above mentioned predictor variables and criterion variables. The results (Table 19) showed ( $F(3,246) = 74.41$ ,  $p \leq 0.01$ ) that regression was significant. All the three variables entered stepwise into the regression equation, explained 47 per cent variance (Adjusted  $R^2 = .47$ ) in the criterion variable. All the variables were significant predictors. These significant positive predictors could be interpreted as having their strength of association in the following order.

SF 6 mapping group growth concern, quality concern management support and transformational leadership style; SF 8 mapping facilitating climate of work unit, conducive motivation management; SF 16 mapping role enactment of entrepreneur, resource allocator, Figurehead, monitor and disseminator roles.

Question 18. What is the strength of association of all the second order factors as the predictors and second order organizational effectiveness factor as the criterion variable?

A multiple regression analysis was performed with variables marked by second order factors as predictor variables and organizational effectiveness (SF 18) as the criterion variable. The results ( $F(3,246) = 125.65$ ,  $p \leq 0.01$ ) showed (Table 20) that overall regression was significant. All the six variables entered stepwise into the

Table - 19

Multiple Regression Analysis Results incorporating SF6, SF8 & SF16 as the Predictors and Group Effectiveness as the Criterion variables

Variables	<u>n</u>	<u>R</u>	<u>R<sup>2</sup></u>	Adjusted <u>R<sup>2</sup></u>	Beta	<u>b</u>	Std Error of <u>b</u>	<u>t</u>
SF6	.63	.63	.39	.39	.38	.13	.02	6.00**
SF8	.58	.66	.44	.44	.29	.24	.05	4.72**
SF16	.37	.69	.48	.47	.19	.40	.10	3.98**

ANOVA for Regression

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
Regression	11512.71	3	3837.5	74.41	.00
Residual	12686.79	246	51.5		

\*\* =  $p < 0.001$

Table - 20

Multiple Regression Analysis Results incorporating all the Second Order Factors as the Predictors and Second Order Organizational Effectiveness Factor as the Criterion

Variables	<u>n</u>	<u>R</u>	<u>R<sup>2</sup></u>	Adjusted <u>R<sup>2</sup></u>	Beta	<u>b</u>	Std Error of <u>b</u>	<u>t</u>
SF6	.70	.70	.49	.49	.35	.14	.02	6.06 **
SF8	.69	.75	.57	.56	.33	.32	.05	5.93 **
SF17	.63	.77	.60	.59	.27	.31	.07	4.65 **
SF14	.35	.78	.61	.61	-.12	-.34	.14	-2.35 **
SF16	-.34	.79	.62	.61	-.11	-.23	.10	-2.63 **
SF3	.11	.79	.63	.62	-.09	-.19	.09	-2.15 **

#### ANOVA for Regression

Source	SS	<u>df</u>	MS	F	P
Regression	952.72	3	317.5	125.65	.01
Residual	621.75	246	2.5		

\*\* =  $p \leq 0.01$

regression equation explained 62 per cent variance ( $\text{Adjusted } R^2 = .62$ ) in the criterion variable. All the variables were significant predictors. Out of significant predictors, SF 16 mapping non-enactment of certain managerial roles was loaded with negative 'beta' weight, hence a negative predictor. The positive predictors could be interpreted as having their respective strength of association in the following order; SF 6 mapping group growth concern, quality concern, management support and transformational leadership style; SF 8 mapping facilitating climate of work unit, conducive motivation management; SF 17 mapping group effectiveness variables; SF 14 construing group's participative orientation and group's motivation for goal oriented activity; and SF 3 consisting of autonomy, task identity and task significance.

Question 19. What is the strength of association of SF 6, SF 8, SF 13, SF 15, SF 16 as the predictors and SF 18 (organizational effectiveness) as the criterion variable?

The multiple regression analysis showed ( $F(5,244) = 71.19, p \leq 0.01$ ) that overall regression was significant (Table 21). The variables entered into stepwise multiple regression equation explained 59 per cent variance ( $\text{Adjusted } R^2 = .59$ ) in the criterion variable. Out of significant predictor SF 15 (close feeling and initiative with subordinates and immediate supervisor) and SF 16 (nonenactment of certain managerial roles) were loaded with negative 'beta' weight (-.10, -.10), hence a negative predictors. The positive predictors could be interpreted as having their respective strength of association in the following order; SF 6 (group growth concern, quality concern, management support and transformational leadership); SF 8 (facilitating climate of work unit, conducive motivation management) and SF 13 (formalization, bureaucratization).

Table - 21

Multiple Regression Analysis Results incorporating all the Second Order Factors (apart from the factors of Individual & Group Effectiveness) as the Predictors and Second Order Organizational Effectiveness Factor as the Criterion

Variables	<u>n</u>	<u>R</u>	<u>R<sup>2</sup></u>	Adjusted <u>R<sup>2</sup></u>	Beta	<u>b</u>	Std Error of <u>b</u>	<u>t</u>
SF6	.71	.71	.50	.50	.40	.38	.06	6.91 **
SF8	.66	.75	.56	.56	.30	.53	.10	5.40 **
SF13	.41	.76	.58	.57	.13	.36	.13	2.83 **
SF15	-.19	.76	.59	.58	-.10	-.33	.15	-2.27 **
SF16	-.31	.77	.59	.59	-.10	-.16	.07	-2.21 **

## ANOVA for Regression

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>P</u>
Regression	934.12	5	186.8	71.19	.01
Residual	640.35	244	2.6		

\*\* =  $p \leq 0.01$

Question 20. What is the strength of association of second order individual and group effectiveness factors as the predictors and second order organizational effectiveness as the criterion variable?

The multiple regression analysis results showed ( $F(2,247) = 96.44, p \leq 0.01$ ) that overall regression was significant (Table 22). Two variables entered stepwise into the regression equation explaining 43 per cent variance ( $\text{Adjusted } R^2 = 43$ ) in the criterion variable. Both the variables were significant predictors. SF 17 mapping group effectiveness was the positive predictor followed by SF 11 (Individual effectiveness). This was also positive predictor of group effectiveness.

Question 21. What are the important dimensions of Group effectiveness (SF 17) on second order factors from SF1 to SF16 which discriminate between the most effective organization and the least effective organization?

In order to identify some of the more important second order factors of individual characteristics (sector a), contingency variables (sector b and sector e), group characteristics that could be used to discriminate between most and least effective organizations both in terms of group effectiveness as well as organizational effectiveness, discriminant analysis was performed using the Rao's stepwise method.

Rao's method was used because this method maximizes Rao's V (Rao, 1970, p. 257), a generalized distance measure. This method would select a variable that contributes the largest increase in V when added to the greatest overall separation of the groups. A variable containing a large amount of information already included in some previously selected variables might actually cause a decrease in the value of V implying a decline in discriminating power since the groups would be brought more closely together, and normally one would not like to include such a variable.

Table - 22

Multiple Regression Analysis Results incorporating Second Order Individual & Group Effectiveness Factors as the Predictors and Second Order Organizational Effectiveness Factor as the Criterion

Variables	<u>n</u>	<u>R</u>	<u>R<sup>2</sup></u>	Adjusted <u>R<sup>2</sup></u>	Beta	<u>b</u>	Std Error of <u>b</u>	<u>t</u>
SF17	.64	.64	.41	.41	.62	.67	.05	12.83 **
SF11	.25	.66	.44	.43	.17	.28	.08	3.53 **

ANOVA for Regression

Source	SS	df	MS	F	P
Regression	690.39	2	345.1	96.44	.01
Residual	884.08	247	3.5		

\*\* =  $p \leq 0.01$

Additionally, the change in V has a chi-square distribution with one degree of freedom when one has relatively "large" number of cases that makes for relatively convenient testing of statistical significance. Being a stepwise procedure, this method provides an efficient way of approximately locating a best set of discriminating variables.

The results of the discriminant analysis showed that (at the discriminant function  $\chi^2(5) = 34.59, p \leq 0.01$ ) some of the variables could significantly discriminate between the most effective organization and the least effective organizations (Table 23). The significant second order factors for the discriminant function were SF8, SF4, SF3, SF15, and SF11 in that order of classificatory strength. The SDF co-efficient showed that SF3 and SF11 were loaded negatively whereas the positively loaded coefficients were SF8, SF4, and SF15. The centroids of the groups (group 1 = -1.01, group 2 = 1.32) showed that this function was present in highest magnitudes in most effective organization (group 2). The prediction of the results using these classification showed that 90.91 per cent of "grouped" cases could be correctly classified.

Question 22. What are the important dimensions of group effectiveness (SF17) on the second order factors from SF1 to SF16 which discriminate between the more effective (set of) organizations and the less effective (set of) organizations?

The results of the discriminant analysis showed that (at the discriminant function  $\chi^2(8) = 74.80, p \leq 0.01$ ) some of the variables could significantly discriminate between the more effective organizations and the less effective organizations (Table 24). The significant second order variables for this function were SF8, SF3, SF9, SF4, SF13, SF7, SF16, & SF15 in that order of classificatory strength of association. The discriminate function could be thought to be loaded positively with SF8, SF4, SF13, SF7, & SF15. This function was loaded negatively with SF3, SF9 and SF16. The



Table - 23

Second Order Discriminant Analysis Results, discriminating between the Most Effective and the Least Effective Organizations on all Second Order Factors as the Discriminating variables & Group Effectiveness Factor as the Criterion variables

Classification function coefficients (Fisher's Linear Discriminant Functions)

Variables	Group 1	Group 2
SF3	-.48	-.75
SF4	1.56	1.76
SF8	1.01	1.25
SF11	.61	.34
SF15	4.89	5.23

Variables	Function 1 SDF Coefficients
SF3	-.63
SF4	.65
SF8	1.12
SF11	-.35
SF15	.57
RC	0.76
Chi Square	34.59
df	5
p	0.01
Centroid of Group 1	-1.01
Centroid of Group 2	1.32

Prediction Results

Actual Group	Group 1	Group 2	Total
Actual N of cases	25	19	44
Predicted N of cases	24	16	40
Accuracy of Prediction for Total N			90.91%

SDF = Standard discriminant function

Group 1 = Least effective group

Group 2 = Most effective group

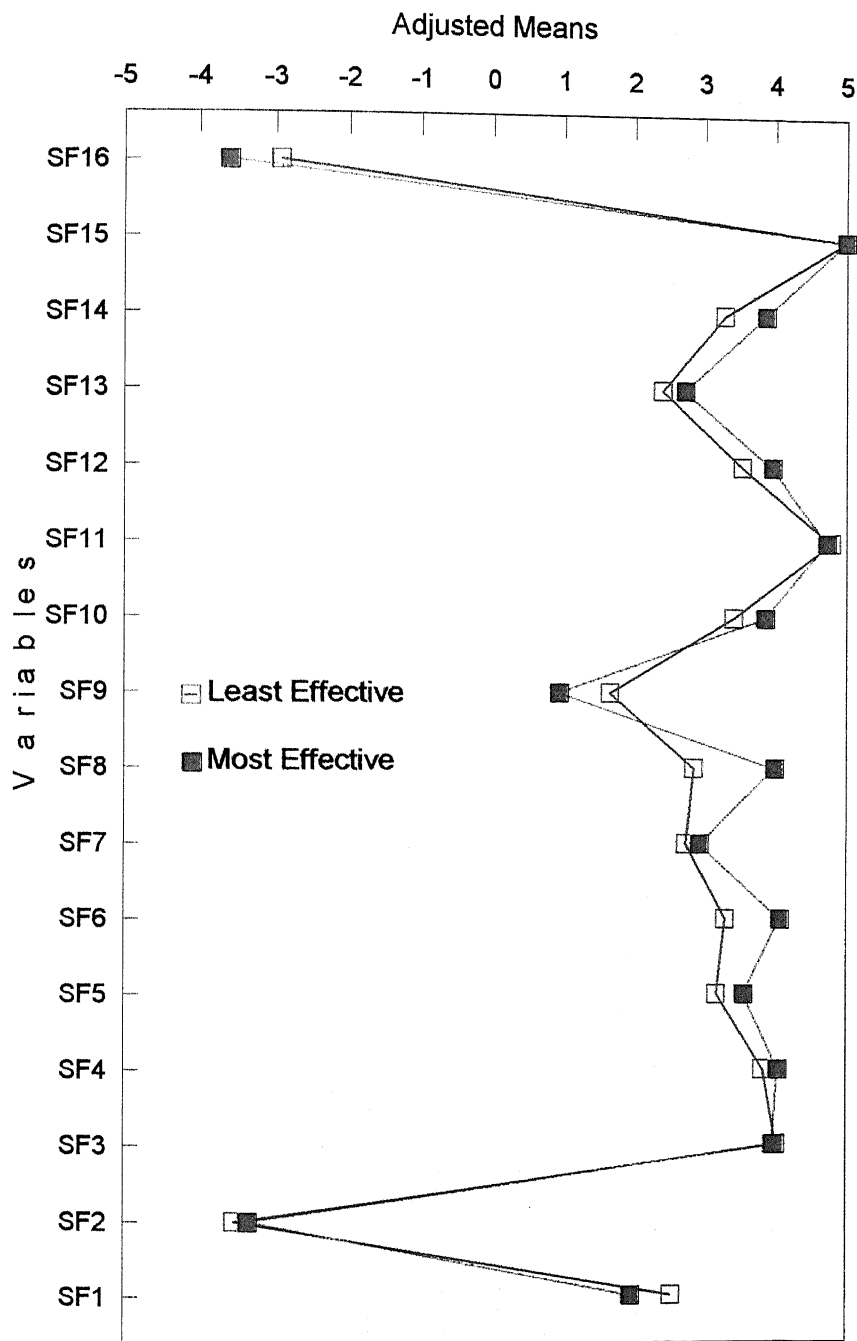


Figure 8. Mean Differences on significant variables differentiating between organizations having least and most of "group effectiveness"

Table - 24

Second Order Discriminant Analysis Results, discriminating between the More Effective and the Less Effective Organizations on all Second Order Factors as the Discriminating variables & Group Effectiveness Factor as the Criterion variables

Classification function coefficients (Fisher's Linear Discriminant Functions)

Variables	Group 1	Group 2
SF3	.30	.19
SF4	.95	.99
SF7	1.01	1.08
SF8	.54	.62
SF9	.33	.28
SF13	-.25	-.19
SF15	3.46	3.51
SF16	-.22	-.27

Variables	Function 1 SDF Coefficients
SF3	-.48
SF4	.25
SF7	.19
SF8	.72
SF9	-.26
SF13	.22
SF15	.18
SF16	-.19
RC	0.51
Chi Square	74.80
df	8
p	0.001
Centroid of Group 1	-.45
Centroid of Group 2	.79

table continues...

table - 24 continued..

### Prediction Results

Actual Group	Group 1	Group 2	Total
Actual <u>N</u> of cases	159	91	250
Predicted <u>N</u> of cases	133	50	183
Accuracy of Prediction for Total N			73.20%

SDF = Standard discriminant function

Group 1 = Less effective group

Group 2 = More effective group

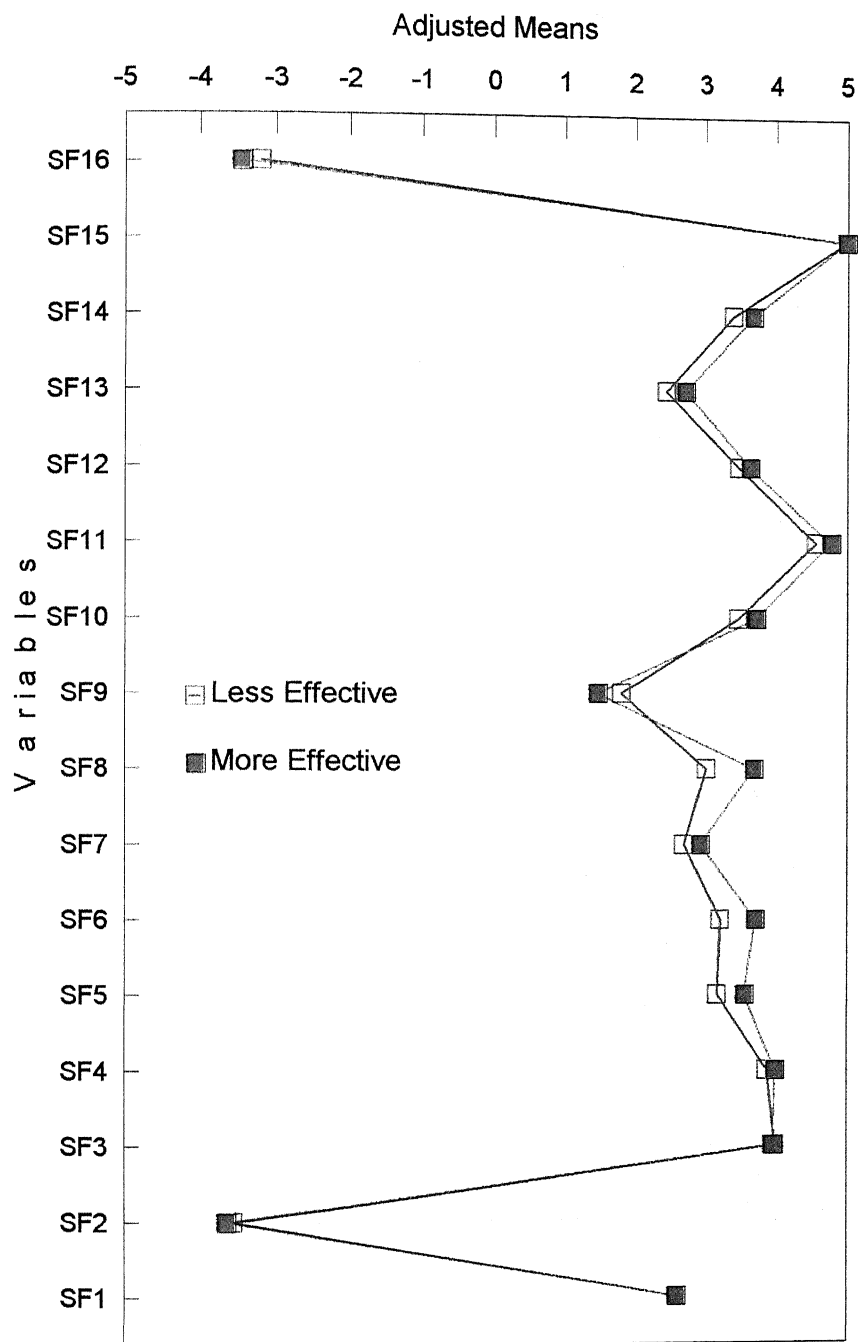


Figure 9. Mean Differences on significant variables differentiating between organizations having less and more of "group effectiveness"

function was present in highest magnitudes in group 2 i.e. more effective organizations and correspondingly in less magnitudes in group 1 i.e. less effective organizations as evidenced by the group centroids (group 1 = -73.20 per cent of the "grouped" cases could be correctly classified.

Question 23. What are the important dimensions organizational effectiveness (SF18) at all second order factors (SF1 to SF17) which discriminate between the most effective organization and least effective organization?

The results of discriminant analysis for the variable "organizational effectiveness showed that (at the first function  $\chi^2(6) = 43.26$ ,  $p \leq 0.01$ ) some of the variables could significantly discriminate between most effective and least effective organization (Table 25). The significant second order variables for this functions were SF12, SF1, SF8, SF9, SF6 and SF2 in that order of classificatory strength as evidenced by their respective SDF coefficients. The discriminant function could be thought to be loaded positively with SF12, SF1, SF9 and SF2; and loaded negatively with SF6 and SF8. This function was present in highest magnitudes in group 1, that least effective organization, and correspondingly in less magnitude in group 2, that is most effective organization as evidenced by the centroids of groups in reduced space for the function (centroids of group 1 = 2.74, Group = -1.58). The prediction of the results using these classification showed that 100% of the "grouped" cases could be correctly classified.

Table - 25

Second Order Discriminant Analysis Results, discriminating between the Most Effective and the Least Effective Organizations on all Second Order Factors as the Discriminating variables and Organizational Effectiveness Factor as the Criterion variables

Classification function coefficients (Fisher's Linear Discriminant Functions)

Variables	Group 1	Group 2
SF1	-18.60	-19.22
SF2	-6.36	-6.55
SF6	6.99	7.08
SF8	-8.25	-7.97
SF9	11.69	11.15
SF12	-3.89	-4.29

Variables	Function 1 SDF Coefficients
SF1	.80
SF2	.37
SF6	-.56
SF8	-.66
SF9	.63
SF12	.90
RC	0.91
Chi Square	43.26
df	6
p	0.01
Centroid of Group 1	2.74
Centroid of Group 2	-1.58

table continues...

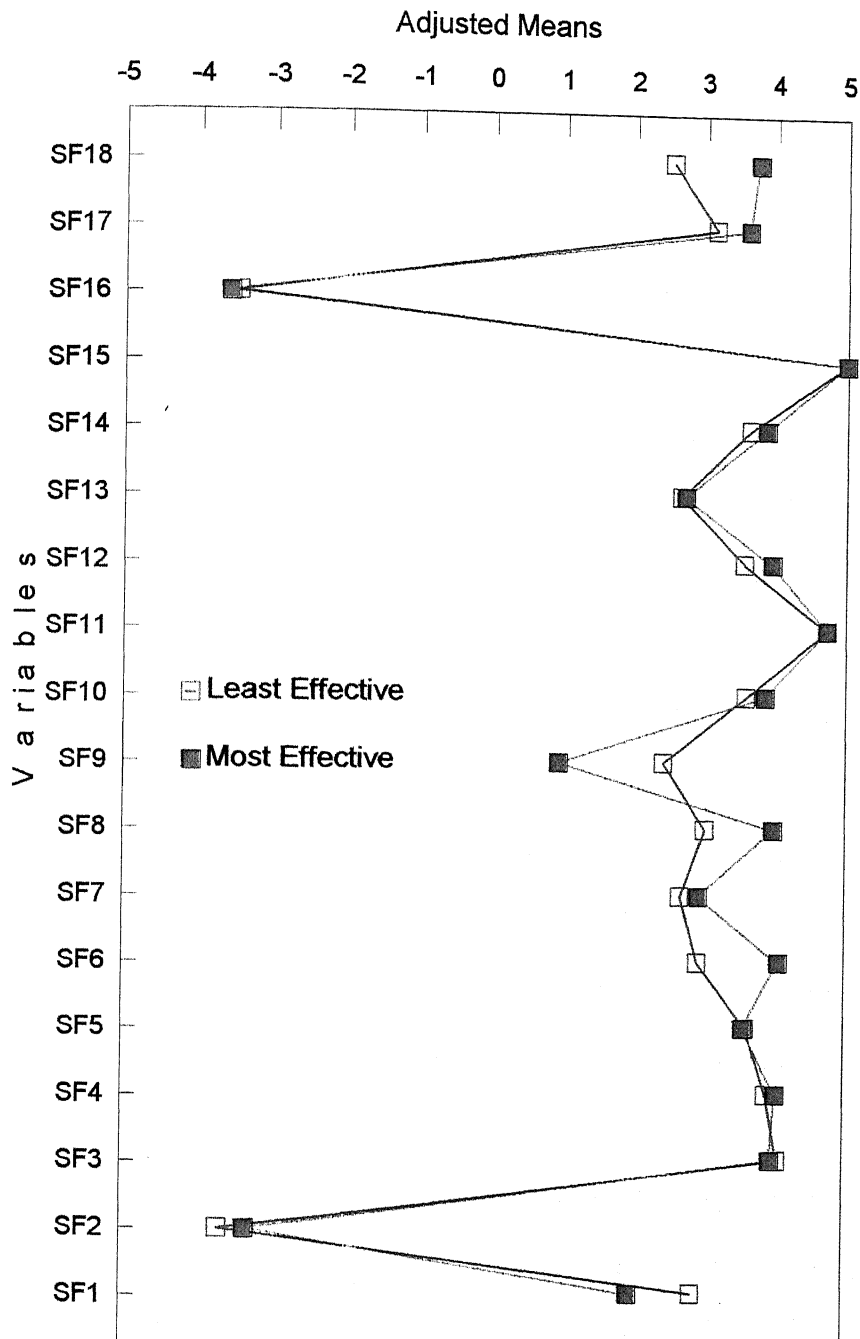


Figure 10. Mean Differences on significant variables differentiating between organizations having least and most of "organizational effectiveness"



Question 24. What are the important dimensions of organizational effectiveness (SF18) at all second order factors (SF1 to SF17) which discriminate between the more effective (set of) organizations and the less effective (set of) organizations?

The results of the discriminant analysis showed that (at the discriminant function  $\chi^2(9) = 69.28, p \leq .01$ ) some of the variables could significantly discriminate between the more effective and the less effective organizations (Table 26). The significant second order variables for this function were SF8, SF3, SF4, SF17, SF14, SF9, SF12, SF10, and SF16 in that order of classificatory strength as evidenced by their SDF coefficients respectively. The discriminant function could be thought to be loaded positively with SF3, SF14, SF9, SF12 SF10, SF16. The function was loaded negatively with SF8, SF4 and SF17. This function was present in highest magnitudes in group 1, that is less effective organizations, and correspondingly in less magnitudes in group 2 that is more effective organizations as evidenced by the centroids of groups in reduced space for the function (centroids of group 1 = .92, group 2 = -.91). The prediction of the results using these classification showed that 83.19 per cent of the "grouped" cases could be correctly classified. Attempting to Identify the Organizations Having Lowest and Highest Magnitudes of Organization Effectiveness.

#### The difference between less and more "Effective" organizations

This research focused on Individuals and work Groups Effectiveness, and explored the antecedents and consequences of this variable in particular. While it may be arguable to draw inference at a macro level from the data originating from concepts pertaining to micro level. Nevertheless, marco inferences might possibly be drawn on two bases. One that it is commonly done in behavioral sciences. Secondly, in the

Table - 26

Second Order Discriminant Analysis Results, discriminating between the More Effective and the Less Effective Organizations on all Second Order Factors as the Discriminating variables & Organizational Effectiveness Factor as the Criterion variables

Classification function coefficients (Fisher's Linear Discriminant Functions)

Variables	Group 1	Group 2
SF3	1.08	.88
SF4	.52	.61
SF8	.37	.50
SF9	1.30	1.21
SF10	1.38	1.26
SF12	.44	.39
SF14	-.87	-1.01
SF16	-.25	-.34
SF17	.13	.19

Variables	Function 1 SDF Coefficients
SF3	.59
SF4	-.38
SF8	-.77
SF9	.32
SF10	.25
SF12	.26
SF14	.33
SF16	.22
SF17	-.37
RC	0.68
Chi Square	69.28
df	9
p	0.01
Centroid of Group 1	.92
Centroid of Group 2	-.91

table continues...

table - 26 continued..

Prediction Results

Actual Group	Group 1	Group 2	Total
Actual <u>N</u> of cases	59	60	119
Predicted <u>N</u> of cases	45	54	99
Accuracy of Prediction for Total N			83.19%

SDF = Standard discriminant function

Group 1 = Less effective group

Group 2 = More effective group

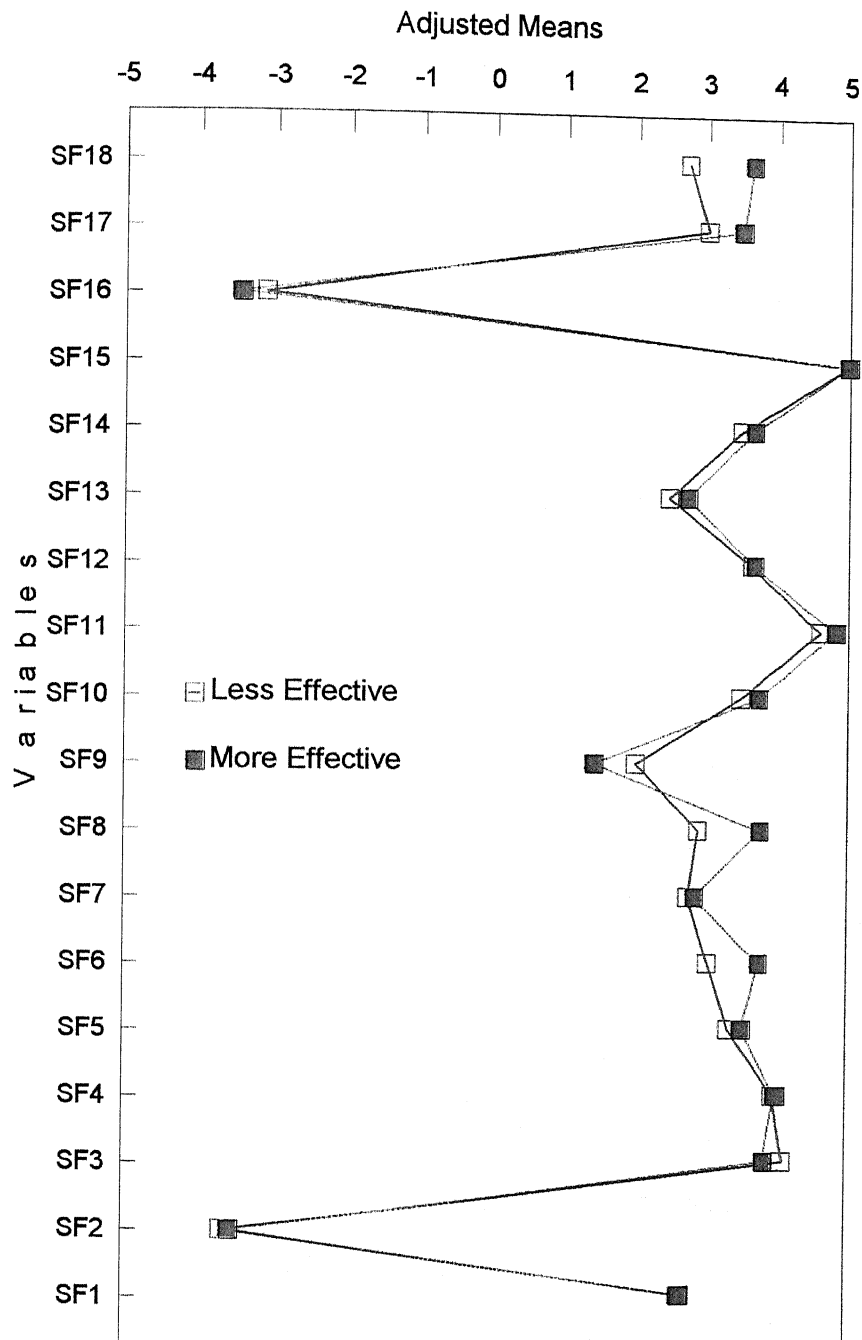


Figure 11. Mean Differences on significant variables differentiating between organizations having less and more of "organizational effectiveness"

ultimate analysis one of the final outcomes of all organizational dynamics would be organizational effectiveness, a macro level concept. Indeed, organizational effectiveness is consisted of a major portion of an individual level phenomenon. Thus, it could be worthwhile to demarcate the more effective organization(s) from less effective ones and see the corresponding magnitudes of other relevant variables. This study included 13 organizations in the sample. The measure of organizational Effectiveness used in this study could be treated as valid measure. Hence to differentiate between more and less effective organizations, it was decided to examine the organizations in the sample in terms of their relative magnitudes of effectiveness. Consequently the following research question was put forward.

Question 25. How the thirteen organizations differ on an average along the dimension of organizational effectiveness?

To answer this question, one way analysis of variance was computed with organizational effectiveness of the thirteen organizations as the dependent measure, and the thirteen organization as the treatment levels. Results showed (Table 27) that there were significant differences among the means ( $F(12,237) = 7.33, p \leq 0.01$ ). The internal comparison of means by Newman Keuls test (cited in Winer, 1962, p. 80) showed that, in terms of organization effectiveness, the organization number 13 (13) was significantly lower ( $\underline{M} = 18.18$ ) than all other organizations. Also, organization number 3 (O3) was significantly lower ( $\underline{M} = 24.73$ ) than organization number 8 (O8,  $\underline{M} = 39.72$ ). Although organization numbers O-3, O-2, O-1, O-7, O-5, O6, O-12, O-4, O-10, O-11, O-9, and O-8 (arranged in increasing order of magnitude of means) were not significantly different from one another, O-8 having the highest value of mean was taken as representative of better organizations if not the least. Thus

Table - 27

One Way Analysis of Variance Results Showing Mean Differences on  
Organizational Effectiveness across the thirteen Organizations

Organization No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Mean	28.23	25.55	24.73	35.14	30.81	32.42	29.76	39.72	38.86	36.57	37.45	34.47	18.18
SD	9.11	16.84	16.12	5.70	7.16	6.50	6.32	6.93	4.25	6.88	7.77	7.37	12.22
No. of respondents	20	25	23	20	20	20	20	19	26	15	15	16	11

ANOVA Summary Table

Source	SS	df	MS	F
Between	8361.72	12	696.81	7.33 **
Within	22522.06	237	95.03	
Total	30883.78	249		

\*\* =  $p \leq 0.01$

three organizations were selected. They were O-13 which was least effective, O-8 which was more effective (or most, if one goes just by the magnitudes of means disregarding significance level), and O-3 which was better than O-13 but was significantly less effective than O-8. Thus in a way, these three organization could be thought of as representing least, most, and moderately effective organizations in the sample. Due to maintain confidentiality, the names of organization are not being disclosed, however, description of all the thirteen organizations are presented in Appendix F.

Question 26. How the thirteen organization differ on an average along the dimension of group effectiveness (SF17)?

To answer this question, one way analysis of variance was computed with group effectiveness as dependent measure, and the thirteen organization as the treatment levels. Results showed (Table 28) that there were significant differences among the means ( $F(12, 237) = 4.56, p \leq 0.01$ ). The internal comparison of means by Newman Keuls test (Winer, 1962, p. 80) showed that in terms of Group effectiveness the organization O-2 had significantly lower mean ( $M = 11.42$ ) than all the other organizations where as organization O-8 had the significantly higher mean ( $M = 14.43$ ) than rest of the organization. Although organization numbers O-3, O-4, O-5, O-1, O-7, O-6, O-3, O-13, O-9, O-11, O-10, O-8 (arranged in increasing order of magnitudes of means) were significantly different from one another. O-8 having the highest value of means was taken as representative of organization high on group effectiveness, whereas organizations O2 was taken as least effective organizations in terms group effectiveness.

Table - 28

One Way Analysis of Variance Results Showing Mean Differences on the  
Second Order Factor Group Effectiveness across the thirteen Organizations

Organization No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Mean	11.86	11.42	12.43	11.78	11.83	12.21	12.19	14.43	13.70	14.20	13.82	13.64	12.56
SD	1.78	2.98	2.71	2.03	1.84	2.08	2.17	1.60	1.59	1.92	1.39	1.79	3.00
No. of respondents	20	25	23	20	20	20	20	19	26	15	15	16	11

ANOVA Summary Table

Source	SS	df	MS	F
Between	248.22	12	20.69	4.56 **
Within	1074.81	237	4.54	
Total	1323.03	249		

\*\* =  $p \leq 0.01$



The sample represented by the most effective organization (O-8) and the least effective organization (O-2) is too small for actual representation hence it was thought to locate a group of organizations which clustered around the less effective group and more effective group. The organizations with lower median value than 12.67 on group effectiveness were treated as less effective organizations and organizations with higher median value than 12.62 "on group effectiveness" were treated as more effective organizations. Organization number O-2, O-4, O-5, O-1, O-7, O-6, O-3 and O-13 were treated as less effective organizations and O-12, O-9, O-11, O-10, O-8 were treated as more effective organizations on the construct of group effectiveness.

Question 27. How the thirteen organization differ on an average along the dimension of organizational effectiveness (SF 18)?

Though this question has already been dealt with first order factors. To make the results more precise and valid, one way analysis of variance was done with second order factors. The dependent measure was organizational effectiveness and the thirteen organizations were dealt as treatment levels. Results showed (Table 29) that there were significant difference among the means ( $F(12, 237) = 8.92, p \leq 0.01$ ). the internal comparison of means showed that in terms of organizational effectiveness, the organization number 13 (O-13) was significantly lower ( $M = 12.62$ ) than all the other organizations in the list. Even organization O-3 had significantly lower mean value ( $M = 13.86$ ) than other organizations. Organization no. 8 (O-8) had the highest mean ( $M = 18.71$ ). Although organization numbers O-13, O-3, O-2, O-5, O-1, O-7, O-6, O-4, O-12, O-10, O-9, O-11, O-18 (arranged in increasing order of magnitudes of means) were not significantly different from one another. O-8 having the highest value of means was taken as representative of better organizations if not the best.

Table - 29

One Way Analysis of Variance Results Showing Mean Differences on  
the Second Order Factor Organizational Effectiveness across the  
thirteen Organizations

Organization No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Mean	15.38	13.87	13.86	16.29	14.83	15.79	15.68	18.71	17.86	17.21	18.07	16.59	12.62
SD	2.39	3.21	3.34	2.20	2.76	2.19	2.06	2.11	1.20	2.45	2.01	2.71	4.23
No. of respondents	20	25	23	20	20	20	20	19	26	15	15	16	11

ANOVA Summary Table

Source	SS	df	MS	F
Between	703.32	12	58.61	8.92 **
Within	1557.15	237	6.57	
Total	2260.47	249		

\*\* =  $p \leq 0.01$

Thus two organization were selected. They were O-13 which was least effective, and O-8 which was most effective. Due to maintain confidentiality the names of the organizations could not be disclosed, however, description of all these organizations are presented in Appendix F.

Apart from identifying the individual least and most effectiveness organization, organization as a group of more effective and less effective organizations were also identified. Organizations having the mean value more than  $\text{Mean} + 1/2 \text{ SD}$  ( $\underline{M} = 15.91 + 1/2 \text{ SD} = 1.73, = 17.64$ ) on the construct of organizational effectiveness were taken into a group of more effective organizations and organizations with less mean value than  $\text{Mean} - 1/2 \text{ SD}$  ( $\underline{M} = 15.91, 1/2 \text{ SD} = 1.73 = 14.18$ ) were taken into a group of less effective organizations. Organizations falling into the category of more effective were O-8, O-9 and O-11. The less effective organizations were O-2, O-3 and O-13.

### Taking a Look at Variables Discriminating in Terms of Macro and Structural Aspects

As mentioned earlier some nominal or categorical variables were also included in this study. They were ownership and Industrial categorization. To check whether the variables included in this study could significantly discriminate in terms of just mentioned categorical variables, some discriminant analyses were made. The research questions and other details follow.

Question 28. What are the important dimensions of all second order factors (SF1 to SF18) which discriminate between the public and private sector organizations?

The results of discriminant analysis for the variable "ownership" (Table 30) showed that for the first function ( $\chi^2(10) = 54.53, p \leq .01$ ) some of the variable could

Table - 30

Discriminant Analysis Results for the dimensions of all Second Order Factors as the Discriminating variables & Ownership Factor as the Criterion variables

Variables	Function 1 SDF Coefficients
SF1	.23
SF2	.35
SF3	-.31
SF5	.21
SF7	.40
SF9	-.33
SF10	.20
SF13	-.23
SF14	.30
SF18	.57
RC	0.45
Chi Square	54.53
df	10
p	0.001
Centroid of Group 1	-.46
Centroid of Group 2	.54

Prediction Results

Actual Group	Group 1	Group 2	Total
Actual N of cases	135	115	250
Predicted N of cases	99	76	175
Accuracy of Prediction for Total N			70.00%

SDF = Standard discriminant function

Group 1 = Public sector

Group 2 = Private sector

significantly discriminate among the organizations belonging to two type of ownership. In tabular presentation, significant variables have been arranged in the order as they were picked up stepwise by the computer program. But in the description, the significant variables have been rearranged in decreasing order of magnitude of the respective standardized discriminant function (SDF) coefficients without regard to arithmetic sign for the ease of presentation. Therefore, it should be noted that the variables picked up stepwise by the computer program in the order presented in the corresponding tables and not in the order of description. The significant variables for this function were: SF18 mapping organizational effectiveness; SF7 mapping rapidly changing environment, non rapidly changing technology and economy; SF2 mapping public self consciousness, public and private self awareness; SF14 mapping groups participative orientation, group's motivation for goal oriented activity, and high performance goals; SF1 construing learned helplessness, self monitoring and private self consciousness; SF5 construing performance reward expectancy, expectation of promotion with more effort on job; SF10 construing fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs. This function was loaded negatively with SF9 consisting of autocratic, bureaucratic values, nonwork norms; SF13 consisting of autonomy, task identity and task significance; SF3 mapping formalization, bureaucratization. The function was present in highest magnitudes in group 2 i.e. private sector, as evidenced by the centroids of groups in reduced space for this function (Centroids of Group 1 = -.46, Group 2 = .54). The prediction of the results using these classification showed that 70.00 per cent of the "grouped" cases could be correctly classified.

Question 29. What are the important dimensions of all second order factors, which discriminate among the three industries?

The results of discriminant analysis for the variable, "Industrial Categorization" showed (Table 31) that (for the first function ( $\chi^2(26) = 82.17, p \leq .01$ ); and for the second function ( $\chi^2(12) = 38.23, p \leq 0.01$ ) some of the variables could significantly discriminate among Textile, Chemical, and Mechanical Industries.

The significant variables for the first function were SF 6 mapping group growth concern, quality concern, management support and transformational leadership style; SF 15 mapping close feeling and initiative with subordinates, close feeling with immediate supervisor; SF 12 mapping role efficacy, effective performance group norms, structured performance group norms; SF 8 mapping facilitating climate of work unit, conducive motivation management; SF7 mapping rapidly changing environment, nonrapidly changing technology and economy; SF 2 mapping public self consciousness, public and private self awareness; SF 5 mapping performance reward expectancy, expectation of promotion with more effort on job; SF 11 consisting of satisfaction with excellent work condition, satisfaction with omnibus success; SF 16 consisting of certain managerial roles, and loaded negatively with all the other variables. This function was present in highest magnitude in Group 1 (Textile industry), and correspondingly in less magnitudes in Group 2 and Group 3. i.e., Chemical industry and Mechanical industry as evidenced by the centroids of groups in reduced space for first function (centroids of Group 1= 1.01, Group 2 = 0.20, Group 3 = -0.35).

Table - 31

Discriminant Analysis Results for the dimensions of all Second Order Factors as the Discriminating variables & Industrial Categorization as the Criterion variables

Variables	Function 1	Function 2
	SDF Coefficients	
SF1	-.03	.47
SF2	.21	-.34
SF3	-.29	-.03
SF4	-.20	-.34
SF5	.14	.34
SF6	.63	.50
SF7	.26	.25
SF8	.30	-.51
SF11	.13	.28
SF12	.45	-.28
SF15	.59	-.24
SF16	.01	.49
SF18	-.39	.06
RC	-.39	.06
Chi Square	82.17	38.23
df	26	12
p	.01	.01
Centroid of Group 1	1.01	-.65
Centroid of Group 2	.20	.53
Centroid of Group 3	-.35	-.21

Prediction Results

Actual Group	Group 1	Group 2	Group 3	Total
Actual N of cases	29	88	133	250
Predicted N of cases	12	44	103	159
Accuracy of Prediction for Total N				63.60%

SDF = Standard discriminant function

The significant variables for the second function were SF 6; SF 2; SF 3 (autonomy, task identity, task significance); SF 5; SF 11 SF 7; SF 18 (organizational effectiveness); and loaded negatively with all the others variables. This function was present in highest magnitude in Group 2 (Chemical industry), and in less magnitudes in Group 3 (Mechanical industry) and Group 1 (Textile industry) respectively as evidenced by the Group centroids in reduced space for second function (centroids of group 2 = .53, group 3 = -.21, group 1 = -.65). The prediction of the results using these classification showed that 63.60 per cent of the "grouped" cases could be correctly classified.

Question 30. What are the important dimensions of all the second order factors, which discriminate among the sectors of ownership and industrial categorization?

The discriminant analysis showed 5 canonical discriminant functions but first three functions found to be significant at  $p \leq .01$  level of significance, hence only those first three canonical discriminant functions are given in tabular presentation. The results of discriminant analysis for the interaction of ownership and industrial categorization showed (Table 32) that for the first function ( $\chi^2(85) = 252.97, p \leq .01$ ), for the second function ( $\chi^2(64) = 162.32, p \leq .01$ ), and for the third function ( $\chi^2(45) = 90.18, p \leq .01$ ), some of the variables could significantly discriminate among public Textile, public Chemical, public Mechanical, private Textile, private Chemical and private Mechanical industries.

The significant variables for the first function were SF 18 construing organizational effectiveness; SF 2 construing public self consciousness, public and private self awareness; SF 7 construing rapidly changing environment; rapidly changing technology and economy; SF 12 consisting of role efficacy, effective performance group norms,



Table - 32

Discriminant Analysis Results for the dimensions of all Second Order Factors as the Discriminating variables & Interaction of Ownership and Industrial Categorization as the Criterion variables

Variables	Function 1	Function 2	Function 3
	SDF Coefficients		
SF1	-.06	.01	.58
SF2	.35	.03	-.16
SF3	-.23	-.33	-.01
SF4	.05	-.04	-.48
SF5	-.11	.27	.47
SF6	.27	-.30	.44
SF7	.32	.14	.29
SF8	-.06	.58	-.37
SF9	-.44	.22	.06
SF10	-.17	.34	.04
SF12	.31	-.13	-.33
SF13	-.26	.14	-.13
SF14	.26	-.02	.32
SF15	.07	.42	-.13
SF16	.02	-.26	.34
SF17	-.16	.36	-.14
SF18	.56	-.10	.03
RC	.56	.51	.44
Chi Square	252.97	162.32	90.182
df	85	64	45
p	.01	.01	.01
Centroid of Group 1	-1.68	1.35	-.04
Centroid of Group 2	.02	-.82	.46
Centroid of Group 3	-.43	-.09	-.50
Centroid of Group 4	1.87	.36	-.81
Centroid of Group 5	.32	.83	.60
Centroid of Group 6	.08	-.25	.15

table continues...

table - 32 continued..

Prediction Results

Actual Group	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Total
Actual N of cases	11	45	79	18	43	54	250
Predicted N of cases	6	20	51	12	23	14	126
Accuracy of Prediction for Total N							50.40%

SDF = Standard discriminant function

structured performance group norms, SF 6 mapping group growth concern, quality concern, management support, transformational leadership style; SF 14 mapping group's participative orientation, group's motivation for goal oriented activity, high performance goals; SF 15 mapping close feeling and initiative with subordinates, close feeling with immediate supervisor; SF 4 mapping effort investment, learning (as a value), valuing independence and intellect, contribution to and the recognition by the group; and SF 16 mapping role enactment of entrepreneur, Figurehead, resource allocator, negotiator, monitor and disseminator roles. This function was loaded negatively with rest of the variables (Table 32). This function was present in highest magnitude private Textile industry (group 4) and in lesser magnitudes in private Chemical industry (group 5), private Mechanical industry (group 6), public Chemical industry (group 2), public Mechanical industry (group 3) and public Textile industry (group 1) respectively as evidenced by the group centroids in reduced space for first function (centroids of group 4 = 1.87, group 5 = .32; group 6 = .08).

The significant variables for the second function were SF 8 mapping facilitating climate of work unit, conducive motivation management; SF 15 mapping close feeling and initiative with subordinates, close feeling with immediate supervisor; SF 17 mapping group effectiveness; SF 10 mapping fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs (components of individual effectiveness); SF 5 construing performance reward expectancies, expectation of promotion with more efforts on job, SF 9 mapping autocratic, bureaucratic values, non work norms; SF 7 construing rapidly changing environment, nonrapidly changing technology and economy; SF 13 mapping formalization, bureaucratization; SF 2 mapping public self consciousness, public and private self awareness; SF 1 mapping uncontrollability of events, congruence between inner state and self presentation,

reflectivity and loaded negatively with rest of the variables. As depicted by the group centroids this function was present in highest magnitude in public Textile industry (group 1 = 1.35) and in less magnitudes in private Chemical industry (group 5 = .83), private Textile industry (group 3 = -.09); private Mechanical industry (group 6 = -.25) and lastly in public Chemical industry (group 2 = -.82).

In the third function the significant variables were SF 1; SF 5; SF 6; SF 16; SF 14; SF 7; SF 9; SF 10; SF 18. The negatively loaded variables were SF 4; SF 8; SF 12; SF 2; SF 17; SF 13; SF 15; and SF 3 respectively (Table 32). The group centroids showed that this function was present in highest magnitude in private Chemical industry (group 5 = .60), and in less magnitudes in public Chemical industry (group 2 = .46), private Mechanical industry (group 6 = .15), public Textile industry (group 1 = -.04), public Mechanical industry (group 3 = -.50), private Textile industry (group 4 = -.81) respectively. The prediction of results using these classification showed that 50.40 per cent of the "grouped" cases could be correctly classified.

### **Factors of Effectiveness as Function of Ownership and Industrial Categorization**

It was decided to see the mean differences of the factors of individual, group, and organizational effectiveness across the level of Ownership (public and private) and three levels of industrial categorization (Textile, Chemical & Mechanical). For the purpose a multivariate analysis of variance was decided to be calculated because as Bock and Haggard (1968, p. 102) point out, when there is more than one dependent variables that have been obtained from the same subjects, the observations are correlated in some unknown way and therefore, the usual *f* tests are not independent and hence, not applicable in the conventional way because no exact probability that at least one of them will exceed some critical level on the null hypothesis can be

calculated. The Multivariate Analysis of Variance (MANOVA) take the correlations among the dependent variables into account.

Question 31. How the dimensions of second order individual effectiveness differ on an average across the factors of industrial categorization (Textile, Chemical and Mechanical) and ownership (public and private)?

Results of MANOVA was showed on (Tables 33 to 34) for both the two factors or dimensions of individual effectiveness (SF 10 and SF 11). The internal mean comparison for SF 10 (Table 33) showed that public Chemical industry had lower ( $\underline{M} = 6.87$ ) preference for SF 10 construing individual need fulfillment compared to their counterparts in all the other industries. The private Textile industry showed highest ( $\underline{M} = 7.77$ ) preference for SF 10. The interaction effect of ownership and industrial categorization was significant ( $F(2,244) = 4.01, p \leq .02$ ). The graphical representation is shown in Figure 12.

The internal cell means comparison showed (Table 34) that private Mechanical industry had lower preference ( $\underline{M} = 9.06$ ) for SF 11 (satisfaction with excellent work condition, satisfaction with Omnibus success) compared to their counterparts in all the other industries. The private Chemical industry showed higher preference for this factor ( $\underline{M} = 9.63$ ). The interaction effect of ownership and industrial categorization was found to be non-significant ( $F(2,244) = .51, p \leq .60$ ), hence there is no graphical representation.

Mean "SF 10" Individual Effectiveness Archytype as a function of Industrial Categorization and Ownership

Ownership	Industrial Categorization			
	Textile	Chemical	Mechanical	Overall
Public	(a) Mean = 7.21 Adj. Mean = 3.61 SD = 0.95 N = 11	(b) Mean = 6.87 Adj. Mean = 3.44 SD = 1.16 N = 45	(c) Mean = 7.12 Adj. Mean = 3.56 SD = 1.09 N = 79	M = 7.05 SD = 1.10 N = 135
Private	(d) Mean = 7.77 Adj. Mean = 3.89 SD = 0.93 N = 18	(e) Mean = 7.40 Adj. Mean = 3.7 SD = 0.79 N = 43	(f) Mean = 6.91 Adj. Mean = 3.46 SD = 1.00 N = 54	M = 7.23 SD = 0.97 N = 115
Main Effect	M = 7.56 SD = 0.96 N = 29	M = 7.13 SD = 1.03 N = 88	M = 7.03 SD = 1.06 N = 133	M = 7.13 SD = 1.04 N = 250

Source of Variation	Hypo. SS	Error SS	Hypo. MS	Error MS	F	Sig. Of F
Ownership	3.42	254.91	3.42	1.04	3.28	0.07
Industrial Categorization	5.17	254.91	2.59	1.04	2.48	0.09
Ownership/Industrial Categorization	8.38	254.91	4.19	1.04	4.01	0.02

Newman Keul's for Individual Effectiveness

	b	f	c	a	e	d
b						**
f						**
c						
a						
e						
d						

\*\* significant at 0.02 level of significance

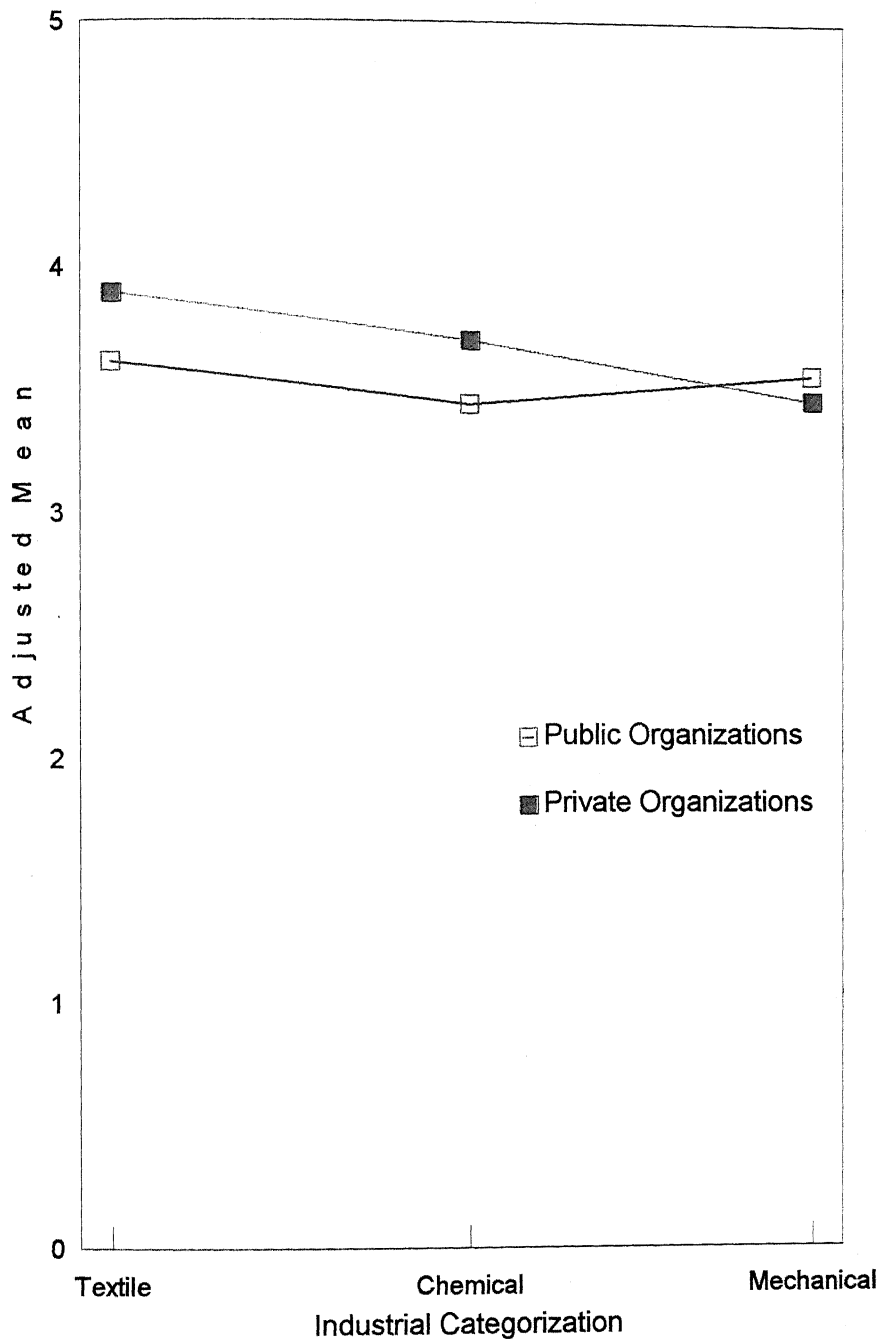


Figure 12. Mean SF 10 (individual effectiveness) as a function of industrial categorization and ownership

Table - 34

Mean "SF 11" Individual Effectiveness Archytype as a function of Industrial Categorization and Ownership

Ownership	Industrial Categorization			
	Textile	Chemical	Mechanical	Overall
Public	(a) Mean = 9.5 Adj. Mean = 4.75 SD = 1.5 N = 11	(b) Mean = 9.34 Adj. Mean = 4.67 SD = 1.54 N = 45	(c) Mean = 9.18 Adj. Mean = 4.59 SD = 1.64 N = 79	M = 9.26 SD = 1.59 N = 135
Private	(d) Mean = 9.56 Adj. Mean = 4.78 SD = 1.03 N = 18	(e) Mean = 9.63 Adj. Mean = 4.82 SD = 1.31 N = 43	(f) Mean = 9.06 Adj. Mean = 4.53 SD = 1.30 N = 54	M = 9.35 SD = 1.29 N = 115
Main Effect	M = 9.53 SD = 1.20 N = 29	M = 9.48 SD = 1.44 N = 88	M = 9.13 SD = 1.51 N = 133	M = 9.30 SD = 1.45 N = 250

Source of Variation	Hypo. SS	Error SS	Hypo. MS	Error MS	F	Sig. Of F
Ownership	0.21	515.75	0.21	2.11	0.10	0.75
Industrial Categorization	8.79	515.75	4.39	2.11	2.08	0.13
Ownership/Industrial Categorization	2.14	515.75	1.07	2.11	0.51	0.60



Question 32. How the dimension of second order group effectiveness differ on an average across the factors of industrial categorization (Textile, Chemical and Mechanical) and ownership (public and private)?

Result of Manova (Table 35) showed that public chemical industry had lower preference for the factor of group effectiveness (SF 17) ( $\underline{M} = 11.58$ ) compared to all the other industries. The private Textile industry seemed to have higher preference for ( $\underline{M} = 14.44$ ) for this particular dimension. The interaction effect of ownership and industrial categorization was found to be significant ( $F(2,244) = 6.78, p \leq .01$ ). The main effect of ownership was also significant ( $F(2,244) = 18.84, p \leq .01$ ). The graphical representation of interaction effect is shown in Figure 13.

Question 33. How the dimension of second order organizational effectiveness differ on an average across the factors of Industrial categorization (Textile, Chemical and Mechanical) and ownership (public and private)?

The internal mean comparison showed (Table 36) that public textile industry showed lower preference ( $\underline{M} = 12.62$ ) for the factor of organizational effectiveness (SF 18) compared to their counterparts in all the other industries and private Textile industry showed higher preference for SF 18 ( $\underline{M} = 18.86$ ). The interaction effect of ownership and industrial categorization was found to be significant ( $F(2,244) = 13.06, p \leq .01$ ). The main effect of ownership was also significant ( $F(2,244) = 54.14, p \leq .01$ ). The graphical representation is given in Figure 14.

Table - 35

Mean "SF 17" Group Effectiveness Archytype as a function of Industrial Categorization and Ownership

Ownership	Industrial Categorization			
	Textile	Chemical	Mechanical	Overall
Public	(a) Mean = 12.56 Adj. Mean = 3.14 SD = 2.30 N = 11	(b) Mean = 11.58 Adj. Mean = 2.90 SD = 2.58 N = 45	(c) Mean = 12.39 Adj. Mean = 3.10 SD = 2.14 N = 79	M = 12.13 SD = 2.38 N = 135
Private	(d) Mean = 14.44 Adj. Mean = 3.61 SD = 1.65 N = 18	(e) Mean = 13.92 Adj. Mean = 3.18 SD = 1.65 N = 43	(f) Mean = 12.59 Adj. Mean = 3.12 SD = 2.13 N = 54	M = 13.38 SD = 2.02 N = 115
Main Effect	M = 13.73 SD = 2.39 N = 29	M = 12.72 SD = 2.46 N = 88	M = 12.47 SD = 2.13 N = 133	M = 12.70 SD = 2.31 N = 250

Source of Variation	SS	DF	MS	F	Sig. Of F
Ownership	88.00	1	88.00	18.84	0.001
Industrial Categorization	23.45	2	11.73	2.51	0.083
Ownership/Industrial Categorization	63.33	2	31.67	6.78	0.001

Newman Keul's for Individual Effectiveness

	b	c	a	f	e	d
b					**	**
c						**
a						**
f						**
e						
d						

\*\* significant at 0.001 level of significance

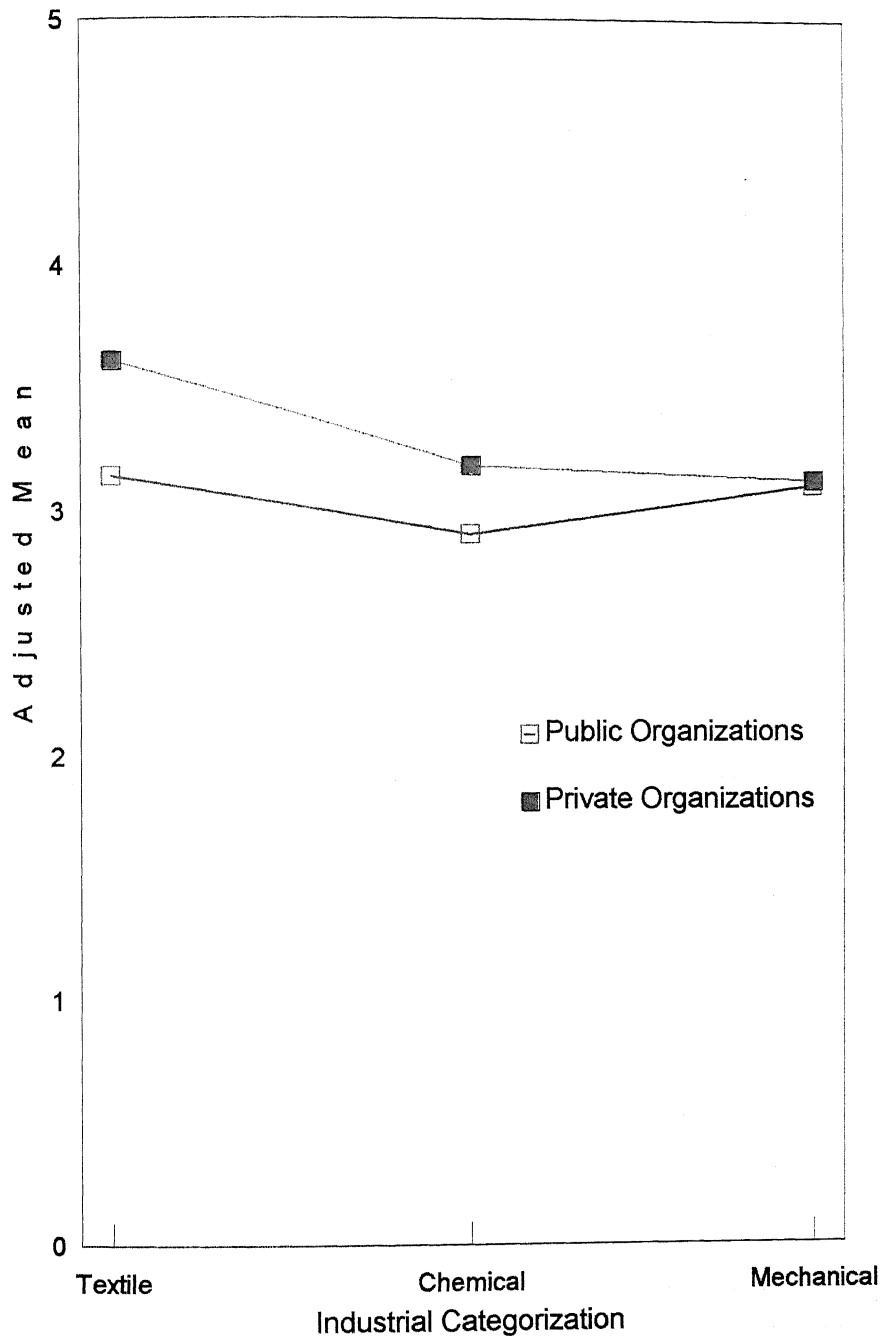


Figure 13. Mean SF 17 (group effectiveness archetype) as a function of industrial categorization and ownership

Table - 36

Mean "SF 18" Organizational Effectiveness Archytype as a function of Industrial Categorization and Ownership

Ownership	Industrial Categorization			
	Textile	Chemical	Mechanical	Overall
Public	(a) Mean = 12.62 Adj. Mean = 2.52 SD = 4.24 N = 11	(b) Mean = 14.95 Adj. Mean = 2.99 SD = 3.03 N = 45	(c) Mean = 15.32 Adj. Mean = 3.06 SD = 3.05 N = 79	M = 14.97 SD = 3.21 N = 135
Private	(d) Mean = 18.86 Adj. Mean = 3.77 SD = 2.08 N = 18	(e) Mean = 17.59 Adj. Mean = 3.52 SD = 1.75 N = 43	(f) Mean = 15.94 Adj. Mean = 3.19 SD = 2.32 N = 54	M = 17.02 SD = 2.33 N = 115
Main Effect	M = 16.49 SD = 4.30 N = 29	M = 16.24 SD = 2.81 N = 88	M = 15.57 SD = 2.78 N = 133	M = 15.91 SD = 3.01 N = 250

Source of Variation	SS	DF	MS	F	Sig. Of F
Ownership	405.34	1	405.34	55.14	0.011
Industrial Categorization	21.88	2	10.94	1.49	0.228
Ownership/Industrial Categorization	192.03	2	96.02	13.06	0.011

Newman Keul's for Individual Effectiveness

	a	b	c	f	e	d
a		**	**	**	**	**
b					**	**
c					**	**
f					**	**
e						
d						

\*\* significant at 0.01 level of significance

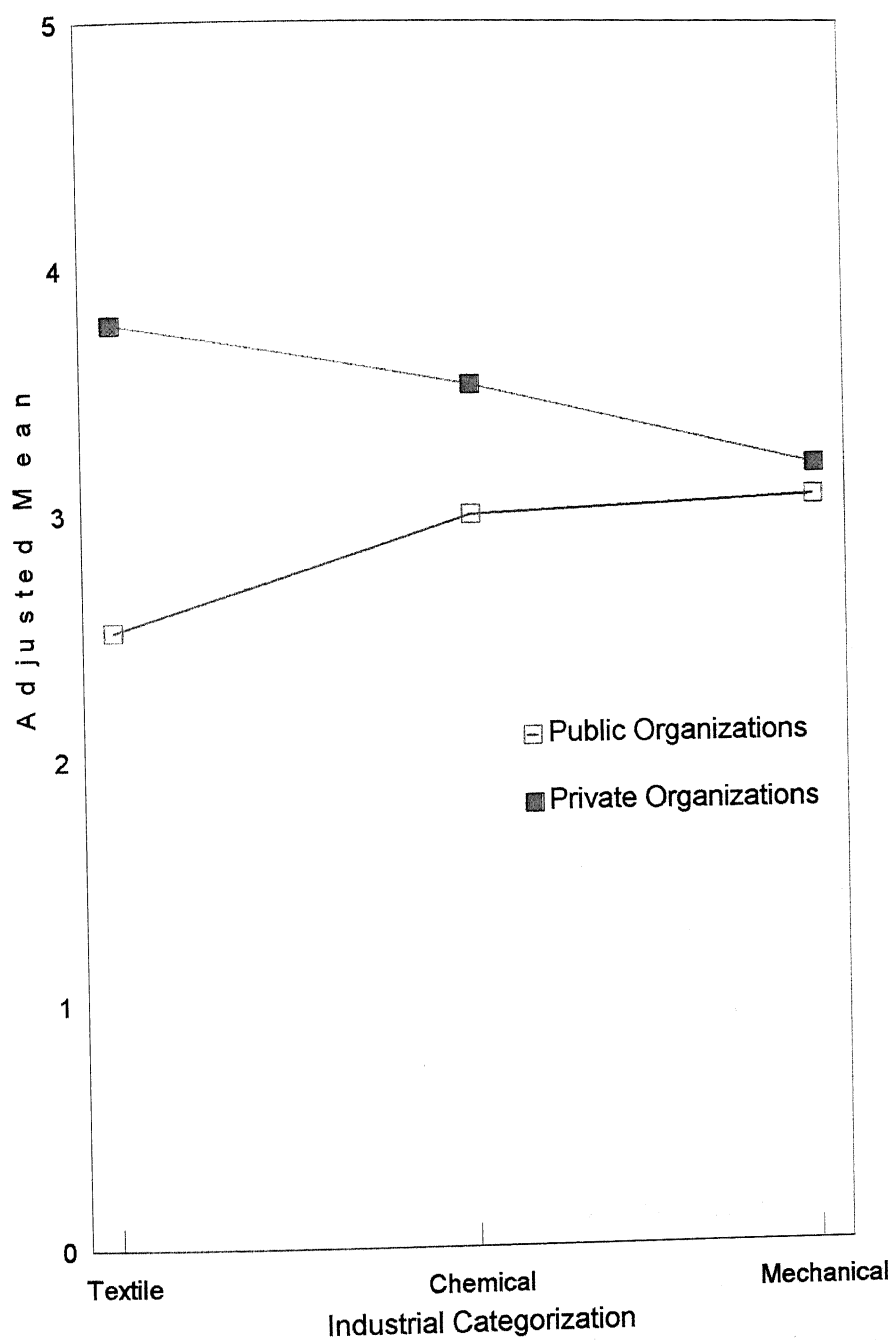


Figure 14. Mean SF 18 (organizational effectiveness archetype) as a function of industrial categorization and ownership

## Chapter 4

### DISCUSSION

The main objective of this research endeavor was to explore the relevant constituents of the human side of enterprise, in relation to some of the indicators of effectiveness of the organizational dynamics, primarily in terms of the behavioral sciences frame work, especially from a social-psychological perspective. As is known to most behavioral scientists, sequencing of the variables in any given order is more a matter of conceptual preference rather than actual cause--effect statements because there may be multidirectional causalities and reverberating feedback loops (McGuire, 1976, p. 37). All the same, for conceptual clarity, the variables in the study, it will be recalled, were categorized into seven major categories (Figure 5, Figure 6, and Figure 7). They were, sector a, consisting of individual characteristics variables; sector b, consisting of contingency variables; sector c, consisting of individual effectiveness variables; sector d, showing group characteristics; sector e, contingency variables; sector f, consisting of group effectiveness variables and sector g, consisting of organizational effectiveness variables. The variables in sector b and sector e were same except for the value, climate, and culture variables.

In keeping with the objectives of study a number of research questions were sought to be answered making use of various statistical analyses. For the purpose of data reduction and identification of salient dimensions underlying the data structure, the responses on primary items were factor analyzed giving rise to a lesser number of variables to be used in further analyses. Consequently there were 37 factors representing 14 major concepts of scales in sector a; 10 factors in subsector b1

representing 9 major scales; 11 factors in subsector b2 representing 8 scales; 8 factors in subsector b3 representing 5 scales; 15 factors in subsector b4 representing 11 major concepts; 12 factors in sector c representing 4 scales; 11 factors in sector d representing 9 scales. In sector e the variables were same as sector b except for the variables belonging to subsector e2. This subsector (e2) was comprised of 12 factors representing 6 major concepts. Sector f was represented by 6 factors belonging to 5 major concepts. And lastly sector g was represented by 8 factors belonging to three major concepts. It would be apparent from the above description that there were 75 major concepts or scales culminating into 130 computed variables or factors that would form the base of further analyses for answering the research questions. However, in most of the analyses these 130 variables were reduced further down a to total of 50 variables on the basis of "second order factor analysis" to facilitate the respondent -- variable ratio as well as the understanding of the intricacies of relationship which might have been compounded manifold by the presence of a larger number of variables in multivariate situations. Additionally, in isolated cases a "forced factor" solution was used to reduce the variables into just one composite score representing particular sectors in the conceptual scheme. During the initial phases, the researcher had ventured with a much larger number of major concepts or scales. It may be recalled that it was through the various steps of item analysis and modifications that the present number of variables were arrived at. Therefore, the variables constituting a particular sector, let us say sector c that is, individual effectiveness, might be taken to be the variables representing individual effectiveness pertaining to the sample of the study according to the data structure. For the present purposes, the individual effectiveness could be understood as being represented in terms of the variables reflecting need

structure, need hierarchy and value realization. Similarly, the other variables could also be treated as being constituted by their corresponding variables as depicted in Figure 5, Figure 6, and Figure 7. The reader of this work report is required to go through the findings with these points in mind.

### **The Relation of Individual, Group and Organizational Effectiveness with other Constructs in the Study**

To recapitulate, this study was an effort toward explorations in the structure and dynamics of Individual effectiveness, group effectiveness and organizational effectiveness. Being exploratory in nature, no hypotheses were proposed in advance. However, with the help of documented reference material and experiences in the pilot study, some of the issues could be raised regarding the effectiveness concept in relation to other variables. The construct of effectiveness was treated as the dependent variable, whereas certain individual characteristics, work group characteristics, task characteristics, individual's value, climate and culture, groups' value, organizational support, management practices were considered as the variables that be relevant in predicting the individual, group and organizational effectiveness. One of the issues pertaining to relationship between effectiveness and other construct could be the following.

#### **What are the relationships between the dimensions of individual characteristics and individual effectiveness?**

This question was sought to addressed though a canonical correlation (CC) analysis (Table 3 of the result section). A perusal of the results shows that there are two significant canonical correlations extracted.



The first CC result shows that the impaired cognitive functioning, and uncontrollability of events, are related to intimate friendship and filial piety, and satisfaction with kindness and patience. As the left hand variate primarily is loaded with the factors of learned helplessness, the results may be interpreted to mean that the learned helplessness is correlated to the socio-emotional support and satisfaction with it. This kind of relationship might arise due to two reasons in the main. One is that, the helplessness naturally attracts sympathy and since the sympathy is available it provides satisfaction as well. However the second reason could be that when a persons' own endeavors fail to yield results (hence the learned helplessness), he or she does not see any way out except to capitalize on the socio-emotional support of friends and relatives. This might be helpful in whatever little progress is possible under the circumstances, and such support might in turn brings a sense of satisfaction with kindness and patience. While empirically it may be alright to think of receiving support and getting satisfaction as the valid components of individual effectiveness, nevertheless the result may not be misconstrued to suggest the desirability of learned helpless factors mentioned above as essential for gaining support and satisfaction.

A perusal at the second canonical result show that lack of willingness for high responsibility and acceptance, lack of job knowledge and understanding are related to lack of satisfaction with kindness and patience, potentially decreased capacity to deal with self, deficit in job prestige and patriotism and fulfillment of security and altruistic needs. It could be inferred that negative characteristics of the person might yield unfavorable results if put forward to. If the role incumbent lacks self and task related maturity he or she can not achieve effectiveness. As far as fulfillment of security and altruistic needs is concerned, it may be said that it is a basic, primary need which is

being satisfied by the virtue of individuals being employed in a work organization. Conversely, it may be said that if role incumbents are possessed with self and task related maturity, they may maximize their personal effectiveness.

Studies have shown that job maturity (Blake, 1990; Smith, 1994; Schmidve, K.J., 1992; Borofsky, & Robert, 1994), self monitoring (Michael, 1993; Porter, 1992; Elis, 1990), learned helplessness (Sakano, Maeda & Tohjok, 1988; Sahoo & Tripathy, 1990), self awareness (Feinberg, 1966; Wicklund & Duval 1971), biographical information (Brush & Ownes,, 1979; Childs & Kilmoski, 1986; Laurent, 1970; Saunders, & Owns, 1986) locus of control (Mitchell, 1975; Anderson, 1977; Glogow, 1986; Das & Agarwala, 1994) may be related to personal effectiveness.

**What are the relationships between the dimensions of task characteristic variables and individual effectiveness variables?**

This question was sought to be addressed through a canonical correlation (CC) analysis (Table 4 of the result section). A perusal of the results shows that there was one significant CC extracted.

A look at the result of CC suggests that task significance, task identity and autonomy were related to satisfaction with kindness and patience, need for affection and including, capacity for effective dealing with self, non-satisfaction with potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs, satisfaction with own people success archetype and deficit in satisfaction with job prestige and patriotism. It may be inferred that for individual effectiveness the above mentioned task characteristics are an important pre-requisite requisite but it is also apparent that role incumbents do not find satisfaction with job prestige and patriotism. The reason could be that this

particular factor is under the control of surrounding environmental factors to a large extent, whereas other factors are under the control of role incumbents, hence they can not easily make an impact upon.

Various other studies have also shown that task performance (Locke, Shaw, Sarri, and Latham, 1981), hard goals (Mento, Steel, and Karren, 1987), ability, goals, and task strategies (Locke, Frederick, Lee and Bobko, 1984) are related to individual performance and satisfaction. It has been found that job characteristics often leads to improved effectiveness (Ford, 1969; Locke, Sirota & Wolfson, 1976; Paul, Robertson & Herzberg, 1969; Hackman and Oldham, 1976).

**What are the relationships between the dimensions of individual's value climate culture variables and individual effectiveness variables?**

The detailed description of result is given in result section. Two significant canonical correlations were extracted from the analysis.

A perusal at first CC (Table 5) suggests that achievement and power orientations, affiliatory relations, effort investment, learning as a value, valuing independence and intellect, contribution to and recognition by the group, hard work ethic of group, performance reward expectancy, expectation of promotion with more effort on job was related to having a sense of shame and recognition, kindness and patience, need for affection and inclusion, capacity for effective dealing with self, non-satisfaction with potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs. It is seen that picture given by the first CC results is very clear and desirable. The respondents, it seems have been able to attain the effectiveness on certain factors. The above stated value, climate & culture variables may be taken as of high instrumental value in

making an individual effective. The studies have shown that environmental factors (Louis et al., 1983; Sinha et al., 1987), values (Ronen, 1978; Mukerjee, 1964; Aliasd Al-Shakis, 1985; Guth & Tagiuri, 1965), climate (Batlis, 1980; Carpenter, 1971; Muchinsky, 1977; Srivastava & Pratap, 1984), may be related to satisfaction.

The state of affairs presented by second CC result depict rather a puzzling scenario. The deficit in learning as a value is related with fulfillment of security and altruistic needs and satisfaction with job, prestige and patriotism. One of the inference, that could be drawn would be that valuing learning may not be necessary for the individuals who are operating with basic security and altruistic needs. Learning as a value may be important for these who can afford to operate with higher level needs such as self actualization and recognition (Maslow 1970). In light of this it seems probable that those with a deficit in learning as a value may have a sense of fulfillment even if their lower level needs such as security (and altruism) are satisfied. However, this should not mean that deficit in learning value may be regarded as something positive as more data with regard to its relationship with higher level need fulfillment may be required one idea needs further exploration.

#### **How the variables of organizational support are related to the variables of individual effectiveness?**

A perusal of the result shows (Table 6) that there were three significant canonical correlation extracted. The first CC result suggests that the left hand variable consisted of facilitative climate of work unit, conducive motivation management, participatively structured organizational norms and values, technologically conducive work conditions and lack of non work norms. This left hand variate is correlated ( $RC = 0.50$ ) with the right hand variate satisfaction with kindness and patience, fulfillment of recognition

opportunities, social facilitation, feedback, group growth considerations, quality concerns, management support, transformation leadership style and job autonomy. The components of individual effectiveness are fulfillment of recognition and autonomy needs, satisfaction with job prestige and patriotism, satisfaction with excellent work condition. A deficit was found in need for affection and including. The relationship may be interpreted to mean that a combination of hostile environment plus supportive management policies is related to fulfillment of recognition and autonomy needs, and satisfaction with job prestige, patriotism, and excellent work conditions, and also to a deficit in need for affection and inclusion. This deficit may be taken to be a positive thing in a practical sense as they may hinder with entrepreneurial and managerial abilities. In an overall sense, it may be said that a conducive and supportive management policy operating in a hostile environment may be a desirable state of affairs. In various studies it has been found that leadership (Schriesheim & Kerr, 1974, Stogdill, 1974; Williams, 1992; Davis and Luthans, 1984; Singh & Bhandarker, 1992), Challenging job opportunities (Berlow & Hall, 1966; Bray, 1974; Super & Hall, 1977, Turner & Lawrence, 1965; Hackman and Oldham, 1976; Hackman & Suttle, 1977), Quality of work life (Davis & Cherns, 1975; Hackman & Suttle, 1977; Sinha, 1977; Nadler & Lawler III, 1983; Emery and Emery, 1974; Marks, et. al. 1986; Ferris & Wagner, 1985; Bocioletti, 1987) motivation management (Podsakoff, 1983; Skinner, 1957; Cooke, 1990), rewards (Jacoles & Solomom, 1977; Lawer, 1973) are closely related to individual performance and satisfaction.

In the second CC analysis the management practices variables instrumental in achieving individual effectiveness are friendship opportunities, growth opportunities, social facilitation, group growth considerations, management support, transformational leadership style, equitable reward system and learning as a value.

The maximized effectiveness variables can be identified as satisfaction with kindness and patience, non satisfaction with potentially decreased capacity to deal with self, fulfillment of security and altruistic needs, satisfaction with comfortable living. With the management practices variables as inputs, a deficit is seen in one of the effectiveness factors named as potential awareness and capacity to work in the dilemmas of life. This may be due to that such behavior pattern that may be taken as an outcome of individual's personality characteristics, policies related to management practices can not make any contribution to it. A research by Kanungo & Wright (1983), suggest that effective managerial performance is influenced by the types of rewards which manager seek in their work environment and by their perceptions of the degree to which their job expectations are being satisfied . It has also been reported that organizationally controlled extrinsic job outcomes are mainly responsible for satisfying existence needs, whereas the interpersonally mediated job factors tend to satisfy social and relatedness needs (Alderfer, 1972; Maslow, 1954).

The picture presented by the third CC result suggest that lack of following management practices variables, namely nonrapidly changing technology and economy, growth opportunity, group growth consideration, transformational leadership style, equitable reward system are found to be related with lack of satisfaction with intimate friendship and filial piety, need for affection and including, capacity for effective dealing with self, satisfaction with potentially decreased capacity to deal with self, satisfaction with comfortable living. This result is self explanatory, suggesting that if there is deficit in input from the management side, it is difficult for an individual to achieve effectiveness. Conversely it may be inferred that if management puts premium on above stated characteristics the role incumbents may turn as an effective work force.

### What are the relationship between the dimensions of Individual effectiveness and group effectiveness?

A perusal of the CC result Table 8 suggests that group effectiveness is maximized by variables of individual effectiveness named as satisfaction with kindness and patience, capacity for effective dealing with self, non-satisfaction with potentially decreased capacity to deal with self, fulfillment of autonomy and recognition needs, fulfillment of security and altruistic needs. The maximized group effectiveness variables are named as group learning, job enriched at group level, groups recognition, group goal accomplishment, cooperative, vigorous and efficient fellow workers. There is deficit in group effectiveness in terms of quarrelsome selfish and belligerent fellow workers. This deficit make sense as for group effectiveness, a desirable set of factors are required which has already been presented by the data obtained in present study. At last, it could be presumed that individual effectiveness may be considered as an important input for group effectiveness of the employees in Indian work setting. Some researchers have suggested that individual goals increase group performance (Crown & Rosse, 1995, Baumler, 1971; Kim & Hammer, 1976; Lawrence & Smith, 1995; Matsui, Kckuyama & Onglatco, 1987), while others have reported negative effects (Mitchell & Silver, 1990; Saavedra, Early & Van Dyne, 1993). In view of Fisher (1974), group performance is measured by summing the individual performances of group members.

### What are the relationships between the dimensions of Individual effectiveness and organizational effectiveness?

Two canonical correlations were derived. The first CC result (table 9) presents the relationship between individual effectiveness factors namely satisfaction with

kindness and patience, capacity for effective dealing with self, non-satisfaction with potentially decreased capacity to deal with self, fulfillment of recognition and autonomy needs, satisfaction with job prestige and patriotism, satisfaction with other people success archetype, satisfaction with comfortable living, excellent work condition and organizational effectiveness factors named as actual innovation, premium on incorporation of the milieu, adaptability to supplies, customers and competitors, team building, *Espirit de corps*. A deficit was also seen in a factor named absenteeism, which only makes the result more desirable. A conjecture could be made that organizational effectiveness can be achieved not only through various macro and structural aspects, but aspect of individual effectiveness is also an important one. Organizations looking for growth and success may be advised to put premium on individual effectiveness.

The second canonical correlation result suggest that lack of satisfaction with comfortable living is found to be associated with team building. The result is baffling in the sense that it is difficult to understand as to why for team building, there should be lack of satisfaction with comfortable living or even why should they be associated in the manner they are, for that matter. A convincing inference could not be drawn, more data and further exploration is required in this context.

### **What are relationships between the dimension of group characteristics variables and group effectiveness variables ?**

The CC results show that two sets of canonical correlations were derived (Table 10, in the result section). The state of affairs at first canonical correlation depict that role efficacy, effective performance group norms, structured performance group norms, stratification, formalization, bureaucratization, formal, interact, friendship and



primary group, command and task group are maximized and are related to the variate consisting of certain factors of group effectiveness, namely group learning, job enriched at group level, group's recognition and group goal accomplishment. It could be inferred that the factors of group characteristics are quite desirable for group effectiveness. It would be wise for organizations to consider such factors when looking for measures to train their work groups for enhanced efficiency and effectiveness. Studies have shown that size (Goodman et. al., 1987; Hare, 1976), group performance norms (Hackman, 1987), member skill (Hackman & Morris, 1975; Libby, Trotman & Zimmer, 1987; Yantisk & Nixon, 1982), nature of the group's composition (Sumpf, 1979; Nemiroff, 1976) play role in group effectiveness.

In the second canonical correlation result, effective performance group norm, structural performance group norm, group size and lack of formalization, lack of formal, interest, friendship and primary group are related with job enriched at group level, cooperative, vigorous and efficient fellow workers and lack of quarrelsome, selfish, belligerent fellow workers. The picture presented by the CC result is desirable enough for increasing group effectiveness. As far as deficit in factors, in terms of formalization, formal interest and primary groups are concerned. The conjuncture would be made that for groups to perform better so that it become a highly effective group, formalization of rules might not be necessary and instead of having a formal, interest or friendship group, a task group would perform more effectively. However, further exploration is required, if one wishes to make any confirmatory statement on those lines.

### How the group task characteristics variables are related to group effectiveness variables?

A perusal at the result of CC in this context (Table 11) depict that only one canonical correlation was derived. In this function quality assurance, group's physical and affective care, hours of work are related to group effectiveness factors namely, group learning, job enriched at group level, recognition, group goal accomplishment, cooperative, vigorous and efficient fellow workers. Based on the information afforded by data a suggestion is given analysis that organizations may also have a look at above stated task characteristics which were found to have a positive contribution in enhancing group effectiveness. Studies by various researchers nature of group's task (Hackman & Morris, 1975; Hoffman, 1979; McGrath, 1984; Poole & Hirokawa, 1986; Steiner, 1972), task design (Hackman, 1987) support the result findings.

### How the variables of group's value climate and culture are related to group effectiveness variables?

A look at the results of canonical correlation (Table 12) in the context of above question, shows that there are two sets of canonical correlations. The first set of CC result depicts that groups' participative orientation, group's motivation for goal oriented activity, high performance goal, interpersonal trust in work group, role enactment of entrepreneur, negotiator, Figurehead, resource allocator, monitor and disseminator roles are related with group learning, job enriched at group level, groups' recognition, group goal accomplishment, cooperative vigorous and efficient fellow workers. This may lead to the inference that groups value, climate and culture variables are instrumental in achieving group effectiveness. Such variables should not

be avoided when group effectiveness is the concern. Similar kind of results have been found in various other studies. Meglino, Ravlin and Adkins, (1989); Lorsch and Morse (1974); Sayeed (1980) found positive relationship between culture, value and performance. Drexler (1977); Powell & Butterfield (1978); Dwivedi (1983); Mehlon, T.H. (1983); Barnes (1981); Friedlander (1970); Likert (1967); McGregor (1967); Sharma, (1989) in their studies found climate and group effectiveness to be related.

The second set of result depicts that factors namely monitor and disseminator roles, and deficit in groups motivation for goal oriented activity are related to cooperative, vigorous and efficient fellow workers, lack of groups recognition, lack of quarrelsome, selfish and belligerent fellow workers. It is understandable to the extent that monitor and disseminator roles function as an input to cooperative, vigorous, efficient fellow workers, and lack of quarrelsome and selfish fellow workers is understandable. But it is difficult to understand how group effectiveness can be increased when there is lack of group motivation. May be due to this reason only, the deficit in groups' recognition is seen. A group may be cohesive but unless the group has motivation towards fulfillment of its goal, it cannot get recognition among other groups / organizations. It could be inferred that besides other characteristics groups task motivation is also an important variable for group effectiveness.

#### **What are the relationships between the dimensions of organizational support variables and group effectiveness variables?**

A perusal of the result (Table 13) suggest that three significant set of canonical correlations were extracted. The first CC result shows that facilitating climate of work units, conducive motivation management, participatively structured norms and values,

work pressure, technologically conducive work condition and lack of autocratic, bureaucratic values and lack of non work norms are maximized and related to group learning, job enriched at group level, groups recognition and group growth accomplishment. The factors maximized for group effectiveness are quite desirable in nature. Even the deficit shown in factors namely autocratic, bureaucratic norms and nonwork values also makes sense. On the basis of these the Management may be advised to de-emphasize autocratic or bureaucratic values and emphasize other positive characteristics for group effectiveness. These results are in tune with the findings of some other researches that have shown that organizational conditions are related to work group effectiveness (Friedlander & Schott, 1981; Cummings, 1981; Zander, 1982; Gladstein, 1984; Goodman, 1986; Shea & Guzzo, 1987; Goodman, Ravlin, & Schminke, 1987; Hackman, 1987; Friedlander, 1987). McCormick (1985), Cooperrider and Plath (1980), and Bushe and Johnson (1989) found environmental support and motivating task contribute toward group effectiveness.

The second CC result depicts that autocratic bureaucratic values and nonwork norms are related to quarrelsome, belligerent fellow workers and deficit in job enriched at group level. One should not be surprised to find such results, as it is expected that undesirable characteristics would not yield any positive result hence there is a deficit in enriched job and group also become uncohesive due to quarrelsome belligerent fellow workers. The OD practitioners are advised not to put any effort in emphasizing such factors.

Owing to our stand mentioned earlier the third CC result would not be discussed here although the result appear in the result section in Table 13.

What are relationships between the dimensions of management practices variables and the dimensions of group effectiveness variables?

Four sets of canonical correlations emerged out to show the significant correlations between management practices variable and group effectiveness variables. The scenario presented by the first function shows (Table 14) that dynamic environment, friendship opportunities, growth opportunities, social facilitation, feedback, group growth concern, quality concern, management support, transformational leadership style, equitable reward system, job autonomy, lack of variety are maximized and related to the attainment of group learning, job enriched at group level, group's recognition and group's goal accomplishment. Research on transformations leadership (Tichy & Devanna, 1990; Howell & Higgins, 1990; Hater & Bass, 1988; Yammarino and Bass, 1990a; Podsakoff et. al. 1990; Singh & Bhandarkar, 1992), feedback (Mesch, et. al., 1994; Goodale & Aagaard, 1975; Leavitt & Mueller, 1951; Annett & Kay, 1957), reward (Eisenberger & Selbst, 1994; Lawler, 1971; March & Simon, 1958; Pritchard, Dunnette, & Jorgenson, 1972; Besser, 1995) support the present result findings.

In the second CC results it is seen that rapidly changing price, competitors & policies, growth opportunities, group growth concern, transformational leadership style, equitable reward system are maximized and related to attainment of job enriched at group level, group recognition and group goal accomplishment. It could be inferred that management practices variables play a significant role in increasing group effectiveness.

The third CC results depict that group growth concern and lack of rapidly changing price, competitors and policies, deficit in lack of variety are related to group goal

accomplishment and lack of group's recognition, lack of quarrelsome, selfish and belligerent fellow workers. The relationship presented by that CC is rather baffling if we compare this result to the previous ones. The inference drawn from this picture is that group growth concern, stability in price, competitors, policies, and variety of task leads to goal accomplishment, lack of recognition and lack of undesirable group characteristics. In some sense the result is understandable but as far as lack of recognition is concerned, there is need for further exploration, the present data structure do not explain the cause of above mentioned CC result.

The fourth CC result show that nonrapidly changing technology and economy and friendship opportunities are related to cooperative, vigorous and efficient fellow workers. It could be inferred that though the change in technology and economy is desirable for the functioning group in the organization; this change should not be very rapid as work groups will not be able to sustain it. Group cohesiveness is also found to be improved if provided with the friendship opportunity.

#### How the variable of group effectiveness are related to the variables of organizational effectiveness?

A perusal at the results (Table 15) suggest that group learning, job enriched at group level, groups' recognition, group goal accomplishment are maximized and related to organizational effectiveness. The factors of organizational effectiveness related to group effectiveness are actual innovation, premium on incorporation of the milieu, premium on adaptability to supplies, customers, team, building and Espirit de corps. The picture presented by the CC result is very apparent, leading to an inference that effective work groups are of high significant value in determining organizational effectiveness. An organization lacking in this attribute would not grow,

unless its work teams are highly effective. Some other studies have also shown that group effectiveness is positively related to organizational effectiveness (Homans, 1950; Kelly, 1982; Bramel & Friend, 1987; Cummings, 1981; Gladstein, 1984; Hackman, 1987; Kolodny & Kiggundu, 1980; Pearce & Ravlin 1987).

**How the dimensions of individual effectiveness, group effectiveness are related to the dimensions of organizational effectiveness?**

The state of affairs afforded by the canonical correlation result (table 16) depicting the two CC, suggest that in the first set of CC, certain characteristics of individual and group effectiveness, namely fulfillment of recognition, autonomy needs, fulfillment of security and altruistic needs, satisfaction with job prestige and patriotism, satisfaction with excellent work condition, feedback, job enriched at group level, group's recognition, group goal accomplishment are related to actual innovation, premium on incorporation of the milieu, premium on adaptability to suppliers, customers and competitors, team building and Espirit of corps. Thus it could be inferred that both individual and group effectiveness jointly determine the effectiveness of an organization. If the role incumbents are effective, there is a high probability that work group will be effective too hence giving rise to a successful organization.

The second CC result (Table 16) is not being mentioned here as no variable had the loading greater than or equal to +.30. Studies by researchers such as Latham (1981), Rush (1953), Stark (1959), Seashore, et. al. (1960), Ronen (1963), Shultz & Siegel (1964), Wiely (1964), Kirchner (1966), Taylor and Bowers (1972), Steers (1975), Lorsch and Morse (1974), Cummings, (1977), Keeley (1978) also suggest that

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various variables determining individual and group effectiveness do affect organizational effectiveness directly or indirectly.

### **Exploration with second order factor of Individual effectiveness**

The second order factor analysis yielded two significant usable factors (Table D6 in appendix D) called SF 10: and SF 11: Individual Effectiveness. In terms of first order factors the SF10 consisted of mainly two components, (a) Fulfillment of recognition and autonomy needs (b) Fulfillment of security and altruistic needs. SF11 was composed of (a) Satisfaction with excellent work condition, and (b) Satisfaction with omnibus success. SF 10 belonged to the construct known as Individual need fulfillment and SF 11 belonged to the construct called Value realization. Hence the results showed that the Individual effectiveness at the second order factor level and based on empirical observations may be conceived mainly in terms of (a) Individual need fulfillment and (b) Value realizations. So an implication could be that in order to enhanced the Individual Effectiveness one may try emphasizing upon the above mentioned two variables.

Knowing that Individual effectiveness may be an important concern both for practicing managers as well as academicians the next question that may arise could be as follows.

### **What could be some of the other important variables in the organizational dynamics that make their contribution towards Individual Effectiveness ?**

It may be reiterated that the construct of individual effectiveness has two components, namely (a) individual need fulfillment (SF 10, Table D6) and (b) value realization (SF 11, Table D6). The results of the canonical correlation contained in Table 17 shows two significant canonical functions could be obtained. The right hand



variate of the first function seems to be emphasizing more on the need fulfillment aspect of the individual effectiveness. The second order factors comprising the corresponding left hand variate of the first function are presented below in descending order of their loadings. Each one of the second order factor numbers are appended with the corresponding first order factors within parentheses.

1. SF 2 (Lack of Public self consciousness, Public self awareness, and Private self awareness).

2. SF 4 (Effort investment, Learning as a value, Valuing independence and intellect, Contribution to and the recognition by the group).

3. SF 3 (Autonomy, Task identity, Task significance).

4. SF 16 (Nonenactment of roles of entrepreneur, Negotiator, Figurehead, Resource allocator, Monitor and disseminator roles).

5. SF 12 (Role efficacy, Effective performance group norms, Structured performance group norms).

6. SF 5 (Performance reward expectancy, Expectation of promotion with more effort on job).

7. SF 14 (Group's participative orientation, Group's motivation for goal oriented activity, High performance goals).

8. SF 13 (Formalization and Bureaucratization).

The right hand variate of the second function seems to be emphasizing more on the value realization aspect of the individual effectiveness. The second order factors comprising the corresponding left hand variate of the second function are presented below in descending order of their loadings. Each one of the second order factor numbers are appended with the corresponding first order factors within parentheses.

1. SF 8 (Facilitating climate of work unit, Conducive motivation management).
2. SF 6 (Group growth concern, Quality concern, Management support, Transformational leadership style).
3. SF 7 (Rapidly changing environment, Non rapidly changing technology and economy).

Apart from these, SF 5, SF 12, SF 13 and SF 14 made their reappearance in second function too.

Taking an overall view of both the canonical functions, it appears that two of the factors, namely SF 2 (lack of public self consciousness, public self awareness, and private self awareness) and SF 16 (nonenactment of roles of entrepreneur, negotiator, Figurehead, resource allocator, monitor and disseminator) had negative loadings of -.72 and -.50 respectively, suggesting that SF 2 and SF 16 have negative relationship with the construct of individual effectiveness. That SF 16 is negatively loaded make sense because the first order factors comprising SF 16 have negative loadings in the first place, so the negative loading of SF 16 in canonical correlations should be taken to mean the desirability of this factor. Because of negative weights it was called nonenactment of certain managerial roles and de-emphasizing the nonenactment of managerial roles actually means emphasizing the role enactment of entrepreneur, negotiator Figure head, resource allocator, monitor and disseminator roles of a manager. In a similar way the nature of SF 2 could also be explained. If we look at the first order factor analysis results (Table B1 to B 15, appendix B) this factor of individual characteristics variables have always appeared with positive factor loadings, whereas in second order factor analysis (Table D1, appendix D) it appeared with negative factor loadings, suggesting the lack of public and private self awareness

and public self consciousness. This had a factor structure with negative arithmetic signs, and it also had negative loading in canonical correlations with individual effectiveness variables. Hence to de-emphasize lack of public and private self awareness and lack of public self consciousness (SF 2) should actually mean to emphasize public and private self awareness and public self consciousness.

A perusal of the above components should make it apparent that as a matter of implication these are the important variables that contribute to the individual effectiveness. Hence it may be advisable to put premium on individual's value, climate, and culture variables (reflected in SF 4, SF 5), task characteristics variables (reflected in SF 3), Group's value climate and culture variables (reflected in SF 14), Group's characteristics variables (reflected in SF 12 and SF 13), management practices and organizational support variables (reflected in SF 6, SF 8, SF 7), and de-emphasize SF 2 (lack of public and private self awareness and public self consciousness, reflecting individual characteristic variables) and SF 16 (non enactment of roles of entrepreneur, negotiator, Figurehead, resource allocator, monitor and disseminator, reflecting climate and culture considerations at group level), with a view to enhance individual effectiveness. Some of the components making for individual effectiveness identified in this study have been found to be related to organizational effectiveness by other researchers as well. For example, studies by Blake, 1990; Smith, 1994; Schneider, 1992; Porter et al., 1992; Feinberg, 1966; Wicklund and Duval, 1971; Ford, 1969; Robertson and Herzberg, 1969; Hackman and Oldham, 1976; Locke, 1981; Sinha et al., 1987; Srivastava and Pratap, 1984; Guth and Tagiuri, 1965; Rokeach, 1973; Hall, 1971; Etzioni, 1964; Singh and Joseph, 1995; Stogdill, 1974; Davis and Luthans, 1984; Singh and

Bhandarker, 1992; Hackman and Suttle, 1977; Podsakoff, 1983; Lawler, 1973, are to quote only a few of them.

### **Exploration with second order factor of group effectiveness**

The construct of group effectiveness was considered important for organizational effectiveness. Besides, the concept is important by itself. Let us discuss the various findings related to group effectiveness, arrived through certain statistical analytical procedures.

The second order factor analysis yielded only one significant factor (Table D10, appendix) called SF 17: Group Effectiveness. The factor was mainly composed of four components in terms of the first order factors. These were (a) Group learning, (b) Job enriched at group level, (c) Group's recognition, and (d) Group's accomplishment of distant, immediate and manifest goals. The first factor belonged to the construct of Group learning, the second factor belonged to the construct called Group growth level, the third one to the Special reward and the fourth factor belonged to the construct called Group goal accomplishment. Hence the second order factor analysis results reveal that group effectiveness may be conceived mainly in terms of four constructs, namely (a) Group learning, (b) Group growth level, (c) Special reward, and (d) Group goal accomplishment. In terms of implication it is self evident that while talking of group effectiveness one may try to emphasize the above mentioned constructs. Studies by Crown and Rosse, 1995; Klin & Mulvey, 1995; O'Leary-Kelly, Martocchio, and Frink, 1994; Kanungo and Wright, 1983; Lawler, 1973; Kanungo et al., 1975; Hare, 1976; Deutsch, 1949; Angela, 1992, also suggest that above mentioned variables are important in terms of group effectiveness.

It is known that the group effectiveness is a widely acknowledged signal construct but it is more important to study this construct in relation to other factors which contribute towards enhancing group effectiveness. The multiple regression analysis (Table 18) done for this purpose showed that the following second order factor could be identified with first order factors (presented in descending order according to their respective strength of association, within parenthesis) as mentioned below.

1. SF 6 (Group growth concern, Quality concern, Management support, Transformational leadership style).

2. SF 14 (Group's participative orientation, Group's motivation for goal oriented activity, High performance goal).

3. SF 12 (Role efficacy, Effective performance group norms, structured performance group norms).

4. SF 13 (Formalization, Bureaucratization).

5. SF 16 (Lack of role enactment of entrepreneur, Negotiator, Figurehead, Resource allocator, Lack of Monitor and Disseminator roles).

6. SF 8 (Facilitating climate of work unit, Conducive motivating management).

7. SF 7 (Rapidly changing environment, Nonrapidly changing technology and economy).

Out of these the SF 16 was a negative predictor. By looking at the first order factors comprising SF 16, this negativity makes sense as this factor had shown negative loadings in the first place, hence the negative beta weight in multiple regression analysis suggests the desirability of SF 16, indicating the importance of putting premium on role enactment of entrepreneur, negotiator, Figurehead, resource allocator; monitor and disseminator roles of the manager. In terms of

implication it may be inferred that not only SF 16, but all the other factors, appearing as the significant predictors of group effectiveness, are to be emphasized in this context. These are SF 6 (group growth concern, quality concern, management support, transformational leadership style), SF 14 (group's participative orientation, group's motivation for goal oriented activity, high performance goals), SF 12 (role efficacy, effective performance group norms, structured performance group norms), SF 13 (formalization, bureaucratization), SF 8 (facilitating climate of work unit, conducive motivating management), and SF 7 (rapidly changing environment, nonrapidly changing technology and economy) in that order of strength. In similar studies by Gilad and Gilad, 1986; Bourgeois, 1980; Van de Van, 1980; Hare, 1976; Goodman, 1987; Friedlander and Schott, 1981; Hackman 1987; Hackman & Morris, 1975; Crown and Rosse, 1995; Klein and Malvey, 1995; Kanango, 1975; Singh and Bhandarker, 1993; Cammock, Nilakant and Dakin, 1995; Katz, 1974; Luthans et al. 1985; Ghiselli, 1971; England and Lee, 1974; Williams, Podsakoff and Muber, 1992; Schriesheim and Kerr, 1974; Williams and Podsakoff, 1988, Chadha, (1990), have attempted to identify the variables in the context of group effectiveness.

#### **Attempting to identify the least and the most effective organizations in terms of group effectiveness**

Having identified the configuration of Group Effectiveness and the variables that could be used to maximize the Group Effectiveness, an attempt was made to identify the organizations that could be called low and high on Group Effectiveness. Consequently, two views were held, (a) identifying the most effective and least effective organizations in terms of Group effectiveness in the sample, (b) identifying the less and the more effective (set of) organizations, in terms of group effectiveness

in the sample. One way analysis of variance and internal mean comparison were used for the purpose (Table 28).

The most effective organization (abbreviated as alphabet O hereafter) turned out to be O - 08 and the least effective organization turned out to be O - 02 in terms of Group Effectiveness. For better comprehension of the results, the variables were identified which could significantly discriminate between the most effective organization and the least effective organizations. One of the ways this could be done would be through discriminant analysis taking all the second order factor (except SF 17: Group Effectiveness) as the variables discriminating between least and most effective organizations. The significantly discriminating variables turned out to be SF 8, SF 4, SF 3, SF 15 and SF 11 in that order of strength. SF 3 and SF 11 had negative arithmetic sign associated with them. A perusal of centroids suggested that this discriminant function had a higher magnitude for the most effective organization (Table 23).

The interpretation of this picture could be made that a high magnitude of SF 8, SF 4, and SF 15 and a low magnitude of SF 3 and SF 11 would characterize the most effective organization. This could mean that in terms of inherent contents, it may be desirable to put premium on facilitating climate of work unit, and conducive motivating management (factors of SF 8); effort investment, learning as a value, valuing independence and intellect and contribution to and the recognition by the group (factors of SF 4); and close feeling and initiative with subordinates and with immediate supervisor (factors of SF 15). The variables which would be undesirable are SF 3 and SF 11. It is interesting to note that SF 3 which reflects autonomy, task identity and Task significance are to be de-emphasized in the most effective organization. The factor structure is desirable, the reasoning for de-emphasizing this

variable could be given that human concerns are more important for the concept such as group effectiveness than the task concerns. The task concern may be considered more important while dealing with micro level aspects such as individual effectiveness. And by taking a look at the results of individual effectiveness (Table 17) this notion becomes more clear as SF 3 as left hand variate is positively associated with right hand variate (individual effectiveness). Going a step further if we see the results of organizational effectiveness, we get a similar picture (Table 23) showing that task characteristics (SF3) is loaded negatively in the discriminant function. Hence, a corollary would be that task characteristics is more of a concern at micro level construct (individual effectiveness) than meso and macro level constructs (group effectiveness and organizational effectiveness). To part with this conclusion is not enough, it would be better to explore further. Another factor to de-emphasize is SF 11 (Table 23), representing satisfaction with excellent work condition and satisfaction with omnibus success. It may be suggested again that SF 11 is a construct pertaining to individual effectiveness variables. Results have shown that concerns for individual effectiveness are different from the concerns for group effectiveness. Even the zero order correlation at SF11 is 0.15,  $p < 0.01$  as against Group effectiveness, whereas with Individual effectiveness, it has the correlation of 0.65,  $p < .00$ . Hence it is quite likely that SF 11 does not make any positive contribution towards Group effectiveness.

To present the results in a more clear and comprehensive way, the univariate mean comparison was done and the t - ratios were calculated to have the general idea of difference between the two organizations across all the second order factors (Figure 8). The univariate analysis showed that apart from the second order factors described in discriminant analysis, few other second order factors appeared to be



having high significance in most effective organizations. These were SF1, SF6, SF8, SF9, SF10, SF12, SF13, SF14 and SF16. A perusal of Figure 8 combined with discriminant analysis and t - ratio results suggests that the most effective organization consisted of higher magnitudes of SF4, SF8, SF10, SF12, SF13, SF14, and SF15 and lower magnitudes of SF3, SF9, SF1 and SF11, SF16.

Interpretation of SF4 (consisting of effort investment, learning as a value, valuing independence and intellect and contribution to and the recognition by the group; SF8, consisting of facilitating climate of work unit and conducive motivating management; and SF13 mapping formalization, and bureaucratization would become repetition, of course this could be said that these factors are desirable for group effectiveness so it would be wise to put premium on SF4, SF8, and SF13. Apparently SF10 mapping fulfillment of recognition and autonomy needs, fulfillment of security and altruistic needs, a construct of Individual effectiveness is also playing a significant role in predicting Group effectiveness. The mean of SF10, in most effective organization ( $M = 3.87$ ) is significantly higher than the mean in least effective organization ( $M = 3.42$ ) at .01 probability level of significance. Therefore, it is advisable to put premium on SF10. The means of construct SF12 (Role efficacy, Effective performance group norms, and structured performance group norms) were found to be significantly ( $t(42) = -2.13, p > 0.05$ ) different though at .05 probability level, and mean was higher in most effective organization thus it is quite desirable to put emphasis on SF12 as a variable to study group effectiveness. The t-test that result at SF14 mapping groups participative orientation, groups motivation for goal oriented activity, and high performance goals ( $t(42) = -3.23, p > .01$  (pooled variance estimate used) emphasize to put premium on this second order factor. This makes sense. It could be concluded with the t-test result that it would be advisable to put

premium on SF6, SF8, SF10, SF12, SF13, and SF14 to make organization effective in terms of group effectiveness.

The t-test result also suggest to de-emphasize SF1, SF9, SF16. De-emphasizing SF1 mapping uncontrollability of events, incongruence between inner state and self presentation, and reflectivity is very much sensible. The construct connotes the negative aspect of personal characteristic means of SF1 are higher in least effective organization ( $M = 2.56$ ) compared to mean in most effective organization ( $M = 1.98$ ).

Even the zero order correlations show that SF1 is negatively correlated ( $r = -.0199$ ) with SF 17 (group effectiveness). SF9 mapping autocratic, bureaucratic values, and nonwork norms has the similar findings. The construct is negative in itself, the means are higher in least effective organization and it has negative correlation ( $r = -.24$ ) with group effectiveness (SF17) therefore this variable may be de-emphasized. And lastly, the rationale for de-emphasizing SF16 is that the factor composed of nonenactment of managerial roles like entrepreneur, negotiator, figurehead, resource allocator, monitor and disseminator roles is present in higher magnitudes in least effective organization (Table 23, Figure 8). It also has negative correlation ( $r = -0.37$ ) with group effectiveness (SF17) consequently it may be advised not to put premium on SF16.

#### **Attempting to identify the less and the more effective organizations in terms of group effectiveness**

In second step organizations were identified in terms of less effective organizations and more effective organizations for the purpose to identify organizations high and low on the construct of group effectiveness. Hence the organizations yielding score less

than the median (Mdn = 12.67) on SF17 (group effectiveness) were considered as the less effective organizations whereas the organizations yielding a score more than the median (Mdn = 12.67) on SF 17 were treated as the more effective organizations (basic statistics related to SF17 pertaining to the overall sample in the Table 26). Consequently organization number O - 02, O - 05, O - 01, O - 07, O - 06, O - 03, and O - 13 appeared as less effective organizations where as O - 12, O - 09, O - 11, O - 10 and O - 08 appeared as more effective organizations. The discriminant analysis results showed (Table 24) that variables which discriminated between less and more effective (set of) organizations were SF8, SF3, SF9, SF4, SF13, SF7, SF15, and SF16 in that order of strength. Out of these SF3, SF9 and SF16 were loaded with negative arithmetic signs. The group centroid (1.326) was higher for more effective organizations than group centroid (-1.007) for less effective organizations. The result suggest that a higher magnitude of SF8, SF4, SF13, SF7, and SF15 and a low magnitude of SF3, SF9, and SF16 would characterize the more effective (set of) organizations. One may say that in terms of factor structure it is advisable to put premium on facilitating climate of work unit and conducive motivating management, mapping SF8; effort investment, learning as a value, valuing independence and intellect, contribution to and the reciprocation by the group mapping SF5; formalization and bureaucratization (SF13); rapidly changing environment, nonrapidly changing technology and economy (SF7), and close feeling and initiative with subordinates, close feelings with immediate supervisor (SF15). And it is very much desirable to de-emphasize constructs like autonomy, task Identity and task significance (SF3); autocratic, bureaucratic values and nonwork norms (SF9); and nonenactment of certain managerial roles (SF16). It would be recalled that, earlier also these same variables appeared with negative beta weights (Table 23).

The t - test results (Figure 8) too support this analogy. As these factors have already been explained for de-emphasis so instead of repeating the results the better choice would be to come to the discussion of univariate analysis.

Though the graphical representation of univariate analysis (Figure 9) has an advantage of presenting the image more clearly, the fact can not be avoided that for better comprehension the results need to be elaborated. The t-test results show that SF 4, SF 5, SF 6, SF 7, SF 8, SF 10, SF 11, SF 12, SF 13 and SF 14 are present in higher magnitudes in more effective organizations compared to less effective organizations, where as SF 9 and SF 16 are present in lower magnitudes in most effective organizations as compared to less effective organizations.

For understanding the difference between the more and the less effective organizations in terms of the first order factors comprising the second order factors listed above, the variables (or the first order factors) which resulted in the significant t - ratios between the more and the less effective organizations are listed below together with their second order factor numbers. SF 4 mapping effort investment, learning as a value, valuing independence, contribution to and the recognition by the group ( $t(248) = -1.97, p < 0.05$ ) pooled variance estimate used); SF5 mapping performance reward expectancy, and expectation of promotion with more effort on job ( $t(228.48) = -4.47, p < .01$  (separate variance estimate used); SF6 mapping group growth concern, quality concern, management support and transformational leadership style ( $t(230.78) = -4.47; p < .01$  (separate variance estimate used); SF 7 consisting of rapidly changing environment, nonrapidly changing technology and economy (Figure 9, Table 24); facilitating climate of work unit, conducive motivation management (SF8); fulfillment of recognition and autonomy needs, and fulfillment of security and altruistic needs (SF10); satisfaction

with excellent work condition and satisfaction with omnibus success (SF11); role efficiency, effective performance group norms and structured performance group norms (SF12); formalization and bureaucratization (SF13), and Group's participative orientation, Group's motivation for goal oriented activity and high performance goals (SF14).

This means to say that all of the above mentioned variables might be considered as a potential inputs to maximize group effectiveness. The discriminant result too give the same picture. Infact one more factor i.e., SF 15 mapping close feelings and initiative with subordinates and close feeling with immediate supervisor is also added in discriminant result. Hence, it could be suggested to highlight these factors for turning the organizations into more effective organizations.

Apart from these there were two other variables which had significantly different t ratios (Figure 10, Table 24) but those are ones which by the virtue of being negative in character would be de-emphasized. These were SF9 mapping autocratic, bureaucratic values and nonwork norms, and SF16 nonenactment of roles of entrepreneur, negotiator, Figurehead, resource allocator, monitor and disseminator roles. A perusal of the discriminant results (Table 24) as well as all the earlier results would show that there is no change in results concerning these variables, besides SF3 mapping autonomy, task identity and task significance is also one of the variables to de-emphasize as suggested by the results of the discriminant analysis it would be concluded that in order to maximize the Group effectiveness of role incumbents it would be better to not to practice autocratic, bureaucratic values and nonwork norms (SF9), nonenactment of certain managerial roles (SF16) and certain immediate tasks characteristics (SF3).

To sum up, it may be said that to the extent it can be shown that organizations can be differentiated as being less effective and more effective in relation to construct of group effectiveness, the multivariate as well as univariate results of present study suggest to put premium on SF4, SF5, SF6, SF7, SF8, SF10, SF11, SF12, SF13 SF14 and SF15 and de-emphasize SF3, SF9 and SF16.

### **Exploration with second order factor of organizational effectiveness**

It would be recalled that the construct of effectiveness was conceptualized to have three domains, namely (a) the individual, (b) the group, and (c) the organizational effectiveness. While the fact remains that the individuals form groups, and both the individuals and the groups ultimately form the organization; it was argued that the specific components of the three types of effectiveness would be mutually different. This argument seemed to stand valid if one goes by the factor structure of these three constructs (table D6, D10, and D11 in Appendix D). While it can be argued that the factor structure is a function of what went into the factor analysis in the first place, a counter argument in defense may be that what went into the factor analysis was not a product of imagination but was arrived at by adhering to the inductive approach where the concepts and ideas actually emerged from the real life setting. Since all the effectiveness concerns should lead to a concern towards organizational effectiveness, particularly from an applied and practical perspective, let us focus on organizational effectiveness in a concentrated manner.

The second order factor analysis yielded only one significant usable factor (Table D11) called SF:18 Organizational Effectiveness. It consisted mainly of five components in terms of the first order factors. These were (a) Actual innovation, (b) Premium on incorporation of the milieu, (c) Premium on adaptability to the suppliers, customers,

and competitors (d) Team building, and (e) Espirit de corps. The first three belonged to the construct called control of the surrounding environment, the fourth belonged to the construct of team building at organization level, and the fifth one represented the construct of morale. Hence the results showed that the organizational effectiveness, at the second order factor level, and based on empirical observations, may be conceived mainly in terms of the three constructs of (a) Control of surrounding Environment, (b) Team building, and (c) Morale. A natural corollary would be that in order to enhance the organizational effectiveness one may try emphasizing upon above three variables. Studies on team building (Driskell & Eduardo, 1992; Ancona, 1990; Buller & Bell, 1986; Sundstron, 1990), Organizational innovation (Damanpour & Evan, 1984; Cummings & Srivastava, 1977; Knight, 1967; Leavitt & March, 1988, Kumar, 1993); Morale (Jones & Jones, 1979) support the findings.

Considering that enhancing organizational effectiveness may be an important concern both for the dominant coalition and the practicing consultant as well as that of behavioral scientists, the following question was raised .

**What could be some of the other important variables in the organizational dynamics that contribute to organizational effectiveness.**

The results of the multiple regression analysis done for the purpose (Table 18) showed that the following second order factors could be identified with corresponding first order factors (listed in descending order according to their respective strength of association, within parenthesis) as mentioned below.

1. SF 6 (Group growth concern, Quality concern, Management support, Transformational leadership style).
2. SF 8 (Facilitating climate work unit, Conducive motivating management).

3. SF 17 (Group Effectiveness, Group learning, Job enriched at group level, Group's recognition, Group's accomplishment of distant, immediate and manifest goals)

4. SF 14 (Group's participative orientation, Group's Motivation for Goal oriented activity, High performance goals).

5. SF 16 (Role enactment of entrepreneur, Negotiator, Figurehead, Resource allocator, Lack of Monitor and Disseminator roles).

6. SF 3 (Task significance, Task identity, and Autonomy).

Out of these, SF 14, SF 16, and SF 3 were "negative" predictors. That SF 16 was a negative predictor, was understandable in the sense that the first order factors comprising SF 16 had shown negative loadings in the first place, and therefore the negative beta weight of SF 16 in the multiple regression analysis should be taken to mean the desirability of this climate and culture factor. More specifically, it calls for an emphasis upon role enactment of entrepreneur, negotiator, figurehead, resource allocator, monitor and disseminator roles of the manager. Added to this, it is also apparent that it may be advisable to put premium on Management practices reflected in SF 6 and SF 8, as well as on Group effectiveness (SF 17). However, what was surprising was to note the fact that SF 14 (Group task motivation, and Goal setting) and SF 3 (Task / job characteristics including Autonomy, Task identity, and Task significance) emerged as negative predictors of organizational effectiveness. Probably it is here that the difference between the group level concerns and the organizational level concerns should be observed. May be these two reflect concerns that focus too much on the group level to be really helpful in making contributions to the organizational level effectiveness. But perhaps more data and further explorations would be required before definitive statements could be made. Studies by



Khandwalla, 1977; Peters and Waterman, 1982; suggest that high organizational performance may be a result of management practices, but it may also affect management practices (Singh, 1983). Climate and cultural variables have also been found affecting organizational effectiveness (James & Jones, 1974; Tagiuri & Litwin, 1968; Pritchard & Karasic, 1973; Drexler, 1977; Likert, 1967; Sharma, 1989; Schneider, et al., 1980; Abbey & Dickson, 1983; Jones, 1983b; Sathe, 1983; Damanpour & Evan, 1984; Ostroff, 1993; Sandra, 1992; Chadha, 1990; Shahrenaz, 1990). To sum-up, more emphasis on factors represented by SF 6, SF 8, and SF 17 combined with de-emphasizing SF 16, SF 14, and SF 3 should contribute to organizational effectiveness. Owing to the negative character of the SF 16, the result need to be interpreted with care as already has been mentioned earlier.

It may be observed that the multiple regression analysis that was discussed above included Group effectiveness (SF 17). A couple of points deserve mention in this context. Firstly it is important to note that conceptually, the components making for group effectiveness were differentiated from the component making for organizational effectiveness. The results (Table 20 and table 22) showed that group effectiveness is a strong predictor of organizational effectiveness. Therefore, a premium on group effectiveness should make a lot of sense. The second point to note is, it may be possible to agree at the theoretical level that it is a simple carry over of group effectiveness to the organizational effectiveness. However, it may be noted that the same cannot be said about the individual effectiveness, not on the basis of the empirical results of this study at least, as the individual effectiveness did not emerge as a significant predictor of organizational effectiveness (Table 20 and Table 22).

In order to cater to the fastidious observers another multiple regression analysis was done excluding individual and group effectiveness. The results (Table 21) were

by and large similar except for the fact that the predictors acquired the strength of association in the order SF 6, SF 8, SF 13, SF 15, and SF 16, and that two more variable namely SF 13 (encompassing the structural considerations of formalization and bureaucratization and SF 15 (close feeling and initiative with subordinate and immediate boss) got included in the predictor set. Further SF 14 (task motivation) got dropped from the predictors' set. Another cost of dropping the group effectiveness from the predictor set was that the shared variance between the predictors and the criterion drop by 03 per cent although the overall shared variance still remained at a reasonably high 60 per cent hence the management practices (reflected in SF 6 and SF 8), Climate and culture (SF 16, a negative predictor) appeared to be significant predictors of organizational effectiveness; if one wishes to take out the contribution of group effectiveness. As mentioned earlier also, the SF 6, SF 8, and a modified SF 16 (may be through reverse coding) seem to reflect the factors, contributing positively to the organizational effectiveness. Of course the contribution of the group effectiveness may not be undermined. In other words, it may be recommended that in order to enhance organizational effectiveness, the variables to be emphasized should be group growth concern, quality concern, management support, transformational leadership style (SF 6); facilitative climate of work unit, conducive motivation management (SF 8); role enactment of entrepreneur, negotiator, figurehead, resource allocator, monitor and disseminator roles (SF 16, reverse coded), and group effectiveness (SF 17). Having a look at regression Table 19 where  $R^2$  for SF 6 is 0.39, for SF 8 is 0.44, and for SF 16 is 0.48 it is thus clear that SF 6, SF 8 and SF 16 may be considered important for group effectiveness. Of course one may attempt de-emphasizing Group's participative orientation, Group's motivation for goal oriented activity, High performance goals (SF 14, Task

significance, Task identity, Autonomy (SF 3) in order to enhance the accuracy and extent of prediction. However, one needs to explore as to why SF 14 and SF 3 turned out to be negative predictors. One of the possibilities may be in the fact that these have to do with group level concerns and perhaps when the concerns become too much at group level, the organizational level outcomes suffer; but the idea needs further testing and data support.

### Attempting to identify the least and the most effective organization in terms of organizational effectiveness

Having identified the configuration of organizational effectiveness and the variables that could be used to maximize the same, an attempt was made to identify the organizations that could be called low and/or high on organizational effectiveness. Consequently two views were entertained, (a) identifying the least and the most effective organization in the sample, (b) identifying the less and the more effective (set of) organizations in the sample. The one way analysis of variance and internal mean comparison were used for the purpose (Table 29).

The organization number O - 13 turned out to be the least effective and organization number O - 08 turned out to be the most effective organizations in terms of the score on SF 18.  $t(12.94) = 4.46, p < .01$  (calculated by using separate variance estimate). It was thought to be meaningful to identify the variables that could significantly discriminate between the least and most effective organizations and consequently a discriminant analysis was done taking all the second order factors (except SF 18: organizational effectiveness) as the variables discriminating between least and most effective organizations. The significantly discriminating variables turned out to be SF 12, SF 1, SF 8, SF 9, SF 6 and SF 2 in that order of strength. SF

8 and SF 6 had negative arithmetic sign associated with them. A perusal of the centroids suggested that this discriminant function had a higher magnitude for the least effective organization. For conceptual clarity, if the arithmetic sign associated with the discriminating variables could be reversed, then the interpretation would be that a high magnitude of SF 8 and SF 6 and a low magnitude of others would characterize the most effective organization. Before moving on further it needs to be observed that mere presence or absence of a variable in one or the other organizational situation (such as being more, or less effective) may not necessarily be indicative of any causal relationship between that variable and the organizational situation; and further confirmatory evidence may be sought before declaration of a variable to be sine qua non of an organizational state. Now, one may venture to say, though with the caution just observed, that it may be advisable to emphasize upon SF 8 and SF 6. In terms of the inherent contents, this amounts to saying that it may be desirable to put premium on facilitating Climate of work unit and conducive motivating management (factors of SF 8); and management practices emphasizing upon group growth concern, quality concern, management support, transformational leadership style (factors of SF 6).

By analogy one may also consider de-emphasizing SF 12, SF 1, SF 9 and SF 2. Out of these SF 2 symbolizes a lack of public self consciousness, positive group feeling and self awareness. By de-emphasizing a lack of these attributes would actually mean emphasizing the attributes. This makes sense. De-emphasizing SF 9 also make sense as it consists of autocratic, bureaucratic values and nonwork norms. SF 1, with respect to its factor structure in terms of the first order factors was highly loaded with uncontrollability of events (factor loading of 0.72). Other components were incongruence between inner state and self presentation (factor

loading = 0.53) and reflectivity (factor loading = 0.53). Probably this second order factor (SF 1) represents a situation which is primarily marked by the uncontrollability of events and the other two components become consequential associates. Apparently this factor SF 1 represents an undesirable state of existence in terms personal characteristics of the role incumbents. One may therefore suggest de-emphasizing SF 1 or screening out the role incumbents who obtain a high score on the construct mapped by SF 1. Coming to the second order factor SF 12, it was interesting to note the apparent dominance of this factor toward least effective organization, as a matter of configuration this SF was composed of apparently desirable factors such as Effective performance group norms, structured performance group norms, and Role efficacy. As a matter of expectation, one would have expected this factor to be oriented toward most effective organization. One may hazard a guess, that the factor SF 12 reflects concerns that are specific to the characteristic variables at group level as against organizational level. Perhaps too much concern, at group level creates a distance from organizational level. In terms of zero order correlations also, the SF 12 had a correlation of 0.25 with the second order factor SF 18 mapping organizational effectiveness, as against a correlation coefficient of 0.51 with SF 17 (Group effectiveness). However, the idea needs further exploration, although as things stand; particularly in a conjoint configuration of the second order factors over here the SF 12 would need to be de-emphasized upon if overall organizational effectiveness be the role concern. As mentioned earlier the role of SF 12 would need to be evaluated with caution because for one thing the nature of this construct by itself is desirable even it is only at group level. Secondly, it may be noted that in terms of univariate comparison the SF 12 did not have a significantly different magnitude in the most effective organization ( $M = 3.96$ ) compared to that of

in the least effective organization ( $M = 3.57$ ),  $t(13.68) = 1.46$ ,  $p > .05$  (separate variance estimate used). Lastly, the correlation between group effectiveness and organizational effectiveness i.e., SF 17 and SF 18 was 0.63. For the sake of comprehensive pictorial representation the means of all the second order factor were plotted (Figure 10). Additionally for univariate mean comparisons, the  $t$  - ratios were also calculated to have general idea of difference between the two organizations across all the second order factors. Apart from the six second order factors discriminating between the two organizations in discriminant analysis as described above, two more factors, namely SF 17 and SF 15 yielded significant (though at  $p < .05$  level)  $t$  - ratios. A perusal of Figure 10 combined with the discriminant analysis and the  $t$  - ratio results suggests that the most effective organization consisted of higher magnitudes of SF 2 (public self consciousness, positive group feeling and self awareness), SF 6 (factors of management practices), SF 8 (facilitating climate of work unit and conducive motivation management), SF 12 (effective performance group norms, structured performance group norms, and role efficacy), SF 17 (group effectiveness) and lower magnitudes of SF 1 (uncontrollability of events, incongruence between inner state and self presentation, and reflectivity), SF 9 (autocratic, bureaucratic values), SF 15 (close relationships with subordinate and immediate supervisor).

Interpretations of results pertaining to variables other than SF 17 and SF 15 would be similar to those mentioned earlier in context of the discriminant analysis. That SF 17 (Group effectiveness) had a higher magnitude in the most effective organization was not surprising as the contribution of effective groups to the overall organizational effectiveness can hardly be undermined. However, the SF 15 had a higher magnitude in case of the least effective organization. This factor represents close relationships

with subordinates and immediate supervisor. Apparently by itself this is a desirable factor and it is interesting to note that it had a higher magnitude but in the least effective organization. It is difficult to make any definite statement as to why it was so and more exploration would certainly be warranted but, at the level of conjecture, it may be posited that there could be a cyclic relationship between the (fall outs of) organizational ineffectiveness and a feeling of closeness. Strictly speaking one may demarcate between the work related performance considerations and the affective considerations which may at times be on extra-work basis. It is likely that an ineffective organization has consequences that make the lives of the role incumbents close to miserable. In such a situation a mutually close relationship may provide much needed emotional support to bolster up the morale of the work force. Conversely, an organization dominated by undue personalized relationship of a very close kind may result in undermining the work considerations rendering the organizations ineffective. Whatever the case may be, on surface it appears that SF 15 represents aspects of interpersonal relations which are none too conducive to the organizational effectiveness. This fact is also reflected in the negative zero order correlation ( $r = -0.19$ ) between SF 18 and SF 15. Hence it may be advisable to de-emphasize close feeling and initiative with subordinate, and close feeling with immediate superior (aspects mapped by SF 15). However, it would be worthwhile to explore the dynamics of this variable further as close relationships do have their own values for role incumbents.

To sum up, it may be said that to the extent it can be shown that an organization is comparable to the O-8 and O-13 of the present study, the constructs mapped by SF 12 (effective performance group norms, structured performance group norms, role efficacy), SF 1 (uncontrollability of events), SF 8 (facilitating climate of work unit and

conductive motivation management), SF 9 ( autocratic, bureaucratic values, and nonwork norms), SF 6 (group growth concern, quality concern, management support, and transformational leadership), and SF 2 ( lack of public self consciousness, positive group feeling, and self awareness) can be used to discriminate between the most effective from the least effective organization and chances are that the most effective organization will have a higher magnitude of SF 8 and SF 6 whereas a low magnitude of SF 12, SF 1, SF 9 and SF 2. A corollary would be the advisability of emphasis on SF 8 and SF 6, and a de-emphasize of SF 12, SF 1, SF 9 and SF 2. In one of the studies on discrimination between least and most effective organizations it was found that organizational awareness, Shared managerial responsibilities, and Administrative trustee duties discriminated between the most effective and least effective organizations (Coork & Brown, 1990). Attempting to identify the less and the more effective organizational effectiveness.

Another way of looking at the organizational variation in terms of organizational effectiveness could be to identify the organizations falling in the categories of relatively less and relatively more effective organizations, rather than just concentrating upon the two extreme organizations. For the purpose, the organizations yielding scores less than the value of  $(M - 0.5 \times SD)$  on the SF 18 (organizational effectiveness) were treated as the less effective organizations whereas the organizations yielding a score more than the value of  $(M + 0.5 \times SD)$  on SF18 were treated as the more effective organizations (basic statistics related to SF 18 pertaining to the overall sample appearing in Table 29. Consequently organization numbers, O - 02, O - 03, and O - 13 were treated as less effective organizations and O - 08, O - 09, and O - 11 were treated as more effective organizations. Discriminant analysis using second order factors revealed the following variables, discriminated



between the less effective and the more effective set of organizations. The significant discriminatory variables turned out to be SF8, SF3, SF4, SF17, SF 14, SF9, SF12, SF10, SF16 in that order of strength. SF18, SF4, and SF17 had negative arithmetic sign associated with them. The discriminant function showed a higher magnitude for less effective organizations and a lower magnitude for more effective organizations. As stated earlier for the sake of better understanding the discriminating variables with negative signs were reversed for interpretation. The results suggested that a high magnitude of SF8, SF4, and SF17 and a low magnitude of others would characterize the more effective (set of) organizations. By observing the above stated facts it thus become important to emphasize SF8, SF4 and SF17. In terms of factor structure one may say that it is desirable to put premium on facilitating climate of work unit and conducive motivating management ( first order factors comprising SF8); effort investment, learning as a value, valuing independence and intellect, contribution to and the recognition by the group (first order factor comprising SF4); and group learning, job enriched at group level, group's recognition, group's accomplishment of distant, immediate and manifest goals ( first order factors comprising SF 17).

One may also consider to de-emphasize SF3, SF14, SF9, SF12, SF10 and SF16. SF16 reflects a lack of role enactment of entrepreneur negotiator, figurehead, resource allocator, and monitor and disseminator roles. By de-emphasizing a lack of these attributes means, emphasizing the attributes. Another factor to be de-emphasized is SF3 consisting of autonomy (of task), task identity and task significance. Though the configuration of SF3 reflects a desirable factor structure. Rationale for de-emphasizing this attribute could be given that while dealing with organizational effectiveness which is a macro level concept, results depict that human concerns have shown more importance than immediate concerns. In terms of zero

order correlations also SF3 had a correlation of 0.11 with the second order factor SF18 (organizational effectiveness) as against as correlation coefficient of 0.23 with FF1 (forced factor of Individual effectiveness). This further shows that immediate task characteristics are more of a concern at micro level than macro level. To sum up with this conclusion is not enough it would be wise to go for further exploration in this regard. Now coming to SF14, it is interesting to note that this factor structure which is composed of desirable factors such as group's participative orientation, groups motivation for goal oriented activity, and high performance goals has found its place in less effective organizations where as one would have expected this factor to show dominance in more effective organizations. As a matter of fact one reason for such diversion could be that this particular factor is concerned with group's climate and culture variables of group level as against organizational level. It might be that too much concern at group level has created distance from organizational level, because as depicted by correlations too SF14 had a correlation of 0.35 with the second order factor mapping organizational effectiveness as against a correlation coefficient of 0.60 with SF17 mapping Group effectiveness. However when organizational effectiveness is the only concern this factor has to be de-emphasized. It is also important to note that SF14 is composed of desirable constructs, even though at group level only, the role of SF14 is to be evaluated with caution. Secondly, when compared on the basis of univariate analysis the factor SF14 did not have a significantly different magnitude in the more effective organizations ( $M = 3.67$ ) compared to less effective organizations ( $M = 3.50$ ),  $t(117) = -1.51$ ,  $p < .05$  (pooled variance estimate used). Lastly, the correlation between the group effectiveness and organizational effectiveness is 0.63. De-emphasizing SF9 makes sense as it consists of autocratic, bureaucratic values and nonwork norms, besides this same

factor was de-emphasized while discussing the discriminant analysis a case of least and most effective organization. The next factor to be de-emphasized is SF12. This second order factor is consisted of effective performance group norms, structured performance group norms, and role efficacy. The configuration of the factor is desirable hence it seems awkward that it is dominated by less effective organizations, SF12 appeared in the same manner among discriminating variables in the least effective organization hence an explanation for the de-emphasize would just be a mere repetition as it is mentioned previously.

Lastly, SF10 containing factors such as fulfillment of recognition and autonomy needs, and fulfillment of security and altruistic needs are de-emphasized in the present context. One way of looking at things may be that SF10 is concerned with individual effectiveness. Previous results have shown that at no stage individual effectiveness showed a significant relationship or predicted organizational effectiveness. Secondly the SDF coefficient at SF10 (Table 26) also show a relatively low weightage). Another view might be that since the concept itself is a component of individual effectiveness, it is very unlikely that this particular variable is of much concern at organizational level effectiveness. The zero order correlation between SF10 mapping individual effectiveness and SF18, mapping organizational effectiveness; is 0.26. Whereas the correlation between SF10 and SF17, mapping group effectiveness; is 0.35. This may be suggestive of the fact that construct is more closely associated with group effectiveness than organizational effectiveness (however, statistically speaking the probability level is  $p < .135$ , as against the probability level of .05 which was taken appropriate for the present work).

For the sake of a comprehensive pictorial representation, the means of all the second order factor were plotted (Figure 11). Additionally for univariate mean

comparisons, the t - ratios were also calculated to have a general idea of difference between the less effective and the more effective set of organizations across all the second order factors. Apart from the nine second order factors discriminating between the less and the more effective group of organizations, two more factors mainly SF6 and SF13 yielded significant t - ratios (  $p < .01$  ). A perusal of Figure 11 combined with the discriminant analysis and the t - ratios results suggests that the more effective set of organizations consisted of the higher magnitudes of SF4, SF8, SF10, SF12, SF13, SF14 and SF17 and lower magnitudes of SF3, SF6, SF9, SF16.

The t - ratio results also support the results obtained by discriminant analysis except in case of SF10. Interpretation of results pertaining to variables other than SF13 and SF6 would be similar to those mentioned earlier in context of the discriminant analysis. The factor SF13 is comprised of formalization and bureaucratization and this factor was present in higher magnitudes among more effective organizations. Taking a look at the concepts of 'formalization' (preference for written operating instructions, job descriptions, availability of manual, written policies and work scheduled ) and 'bureaucratization' (division of labor, importance of authority and power, hierarchical control) it is clear that they do not connote any negative feature of formal and bureaucratic policy structure. The result showing the mean of SF13 in the more effective organizations is  $M = 2.72$  compared to mean of ineffective organizations,  $M = 2.47$  and t-ratio (at 117 df) = - 3.32,  $p < .01$  (pooled variance estimate) explains and confirms the place of SF13 in more effective organizations in higher magnitudes compared to less effective organizations. Another important factor which made major contribution to organizational effectiveness is SF 6 consisting of group growth concern, quality concern, management support and transformational leadership style in more effective

organization. The mean of SF6 in more effective organization ( $M = 3.77$ ) is significantly higher as against the mean in less effective organizations ( $M = 3.04$ ),  $t(97.23) = -5.94$ ,  $p < .01$  (separate variance estimate used). Though this factor was not present in discriminant function, but when taken a look at analysis and findings at the level of least and most effective organizations (extreme cases in terms of effectiveness), it can be seen that this factor has appeared in higher magnitudes in most effective organizations, in multivariate as well as univariate analysis. Even the zero order correlation between SF6 and SF18 mapping organizational effectiveness ( $r = 0.70$ ) is in the same direction. Hence it is advisable to emphasize group growth concern, quality concern, management support and transformational leadership style (SF6).

A matter of concern should be the nature of SF10 which consists of fulfillment of recognition, autonomy, security and altruistic needs. The mean comparison between the less effective and more effective organizations suggests that it was the more effective organizations that possessed of SF 10 in higher magnitudes. In terms of face validity apparently this should be so, because one would expect the highly effective organizations to cater for the needs of its role incumbents. However, it should be noted that the interpretations of this variable in context of discriminant analysis would be almost reversed of the interpretations with respect to the calculations of the t-ratios. That is, in case of discriminant analysis SF 10 would be the characteristics of less effective organizations or in another words the SF 10 should be of lesser magnitudes in more effective organizations. There does not seem to be any straight forward explanation possible except to offer a conjecture that the variables do change their specific way in which they behave depending upon whether they are being evaluated in a univariate situation or a multivariate

situation. Nevertheless, insofar as the argument, that a multivariate situation is closer to reality, can be accepted it may be advisable to de-emphasize SF 10 whenever it is being evaluated in conjunction with the other variables, constituting the discriminant function in question. All the same, it may be wiser to go in for further exploration about the structure and dynamics of this variable, namely SF 10.

After going through the results, it is now clear that while comparing the more effective organizations and less effective organizations the variables distinguishing between O - 08, O - 09 and O - 11 (more effective organizations) and O - .02, O - 03, O - 13 (less effective organizations) were SF 8, SF 3, SF 4, SF 17, SF 14, SF 9, SF 12, SF 10, SF 16, SF 13 and SF 6. There is a high possibility the more effective organizations will have, SF 8, SF 4, SF 17, SF 13 and SF 6 in higher magnitudes and SF 3, SF 9, SF 12, SF 14, SF 10, and SF 16 in lower magnitudes. Hence it is advisable to emphasize SF 8, SF 4, SF 17, SF 13, and SF 6 and de-emphasize the others.

After discussing the contributions of each and every variables separately in enhancing individual effectiveness, group effectiveness and organizational effectiveness, it was thought to be useful to locate some common variables which act at all the above mentioned three levels of effectiveness. The variables emerging in the multiple regression analysis at group level and organizational level, and canonical correlations at individual level; were scanned and the variables found to be common across the analyses are noted below. These common variables may be regarded as contributing to the increased individual, group, and organizational effectiveness. The variables are SF 3 (autonomy, task identity, task significance), SF 6 (group growth concern, quality concern, management support, transformational leadership style), SF 8 (facilitating climate of work unit, conducive motivation

management), SF 13 (formalization and bureaucratization), SF 14 (group's participative orientation, group's motivation for goal oriented activity, high performance goals) and SF 16 (nonenactment of roles of entrepreneur, negotiator, figurehead, resource allocator, monitor and disseminator). It may be noted that since these variables are appearing in all the statistical analysis mentioned earlier, these variables could be taken as some of the most important variables to deal with. The suggestion is that whether the concern is with individual effectiveness, group effectiveness or the organizational effectiveness it would be wiser to consider the constructs of SF 3, SF 6, SF 8, SF 13, SF 14 and SF 16.

### **Differentiation in terms of Categorical Variables**

In the earlier part of discussion, the variables of individual effectiveness, group effectiveness, organizational effectiveness and the variables related to these constructs of effectiveness were dealt with. Since the data were collected from thirteen organizations belonging to three industrial categories namely textile, chemical, and mechanical; further dichotomized across ownership category, namely public sector and private sector, it was thought worthwhile to examine the relationship between such macro structural aspects (i.e., ownership and industrial categorization) and the variables in the study. One way of exploration could be through the use of discriminant analysis. A discriminant analysis was done using all the variables in the study as the variables discriminating (a) between the organizations belonging to the two ownership categories, (b) among the organizations belonging to the three industrial categories and (c) between the organizations falling into the six cells of 2 X 3 (ownership X industrial categorization) classification (Table 30 to 32).

Taking an overall view of the variables discriminating between the organizations belonging to the public and private sectors, it appears that the organizations belonging to private sector could be thought of as possessing the desirable aspects like organizational effectiveness; rapidly changing environment, nonrapidly changing technology and economy; public self consciousness, private and public self awareness, group's participative orientation, group's motivation for goal oriented activity, high performance goals; learned helplessness, self monitoring and private self consciousness; performance reward expectancies, fulfillment of recognition, autonomy, security and altruistic needs. As shown by the result (Table 30), it may be inferred that organizations in private sector possess more of the variables that could be termed as desirable compared to public sector organizations. May be this contains the reason why private sector organizations are more successful and are able to meet the new challenges, environmental uncertainties and demands of their employees more closely than public sector. The present study also suggest some aspects as mentioned above which the private sector has incorporated in their organizational set up. It may not be a bad idea to apply these concepts to make an organization more successful.

The extant literature has shown that managers in private sector were significantly different from managers in public sector in terms of orientation, interpersonal relations, communication, supervision, decision making, managing problems and managing mistakes and conflicts and risk taking Chadha (1990) . Further managers in private sectors were found to be more satisfied than public sector managers on promotion, satisfaction with coworkers, satisfaction with supervision and satisfaction with work. Studies by Buchanan, II, 1974, 1975; Sinha, 1973; Soloman, 1986 also support the



evidence that executives in private sector have higher level of satisfaction in comparison to public sector executives.

In a similar way, the discriminant results (Table 31) in terms of industrial categorization suggest that in the first function textile industries possess the maximum number of desirable aspects like group growth concern, quality concern, management support and transformational leadership style, close feeling and initiative with subordinates and immediate supervisor, role efficacy, effective and structured performance group norm, facilitating climate of work unit, conducive motivation management, rapidly changing environment, Nonrapidly changing technology and economy, public and private self awareness, self consciousness, performance reward expectancies, satisfaction with work condition and omnibus success, and role enactment of entrepreneur, figurehead, resource allocator, monitor and disseminator roles. Organizations belonging to Chemical and mechanical industries in that order, possess the lesser number of these above mentioned desirable variables. As shown in the result, taking desirability of the discriminating variables for granted, the textile industries seem to be endowed with much more desirable variables followed by Chemical and Mechanical industries. This may be explained in terms of advancement in technological innovation, increase in consumer choices and business opportunities in textile industry in this country. Looking at the scenario presented by Indian industries, one may infer that Indian Textile industries have a better future ahead, whereas the Chemical industries and Mechanical industries require to develop some intervention program to compete into business world.

The second function in discriminant analysis presents a different picture. The results (Table 31) show that Chemical industries possess the maximum number of desirable aspects like group growth concern, quality concern, management support,

transformational leadership style, public self consciousness, public and private self awareness, autonomy, task identity, task significance, performance reward expectancies, satisfaction with excellent work condition, satisfaction with omnibus success, rapidly changing environment, nonrapidly changing technology and economy, and organizational effectiveness. Organizations belonging to Mechanical and Textile industries, in that order possess the fewer number of these desirable variables. It may be inferred that Chemical industry is endowed with more desirable variables in a sequence mentioned above followed by Mechanical and Textile industries. There is a need for intervention in Mechanical and Textile industries to make their future better.

Lastly, discriminant analysis was treated with the interaction of ownership and industrial categorization. The results suggest (Table 32) that in the first function private Textile industry was marked by the more desirable factors as compared to private Chemical industry, private Mechanical industry, public Chemical industry and public Textile industry, respectively. The desirable factors are named as organizational effectiveness, public self consciousness, public and private self awareness, rapidly changing environment, nonrapidly changing technology and economy role efficiency, effective and structured performance group norms, group growth concern, quality concern, management support, transformational leadership style, group's participative orientation, group's motivation for goal oriented activity, high performance goals, close feeling and initiative with subordinates and immediate superior, effort investment, learning, valuing independence and intellect, contribution to and the recognition by the group, and role enactment of entrepreneur, figurehead, resource allocator, monitor and disseminator respectively. It may be suggested that these are important variables which is represented by the private Textile

industry in Indian setting. One may also infer that since private Textile industry is endowed with relatively more desirable attributes, it may be a more rewarding place to work in compare to their other counterparts. Another conjecture that could be made in this regard is that a job in private sector is more challenging, the policy is growth oriented and there is job diversification in different fields may be that is why the private sector industries are in a better position. The other industries in public sector and also the Chemical and Mechanical industries in private sector have to make an attempt to catch up with the Textile industry in private sector in terms of the aspects that may be regarded as conducive to an organizational enterprise.

The scenario in second function depicts that public Textile industry (Table 32) could be thought of possessing the maximum number of desirable variables. Organization belonging to private Chemical, private Textile, public Mechanical, private Mechanical and public Chemical categories, in that order appear to be possessing fewer number of those desirable aspects. The result is rather baffling, as we know from our observation that it is public Textile industry which needs more attention. One reason could be the data structure of the present study, and the level of hierarchy from which the data was collected i.e. the middle managerial level. At this level the executives prefer job security, comfortable living and some other facilities of this nature. Public organizations, that too the textiles industry are best to work as it provides all these kinds of facilities and other fringe benefits. Therefore, it may be inferred that the private organizations and also the other industries of public sector need to make an effort in this context.

The third function suggests that private chemical industry (Table 32) could be thought of possessing the maximum number of desirable factors in the order presented in discriminant table organizations belonging to public Chemical industry

private Mechanical industry, private Textile industry appear to be possessing fewer number of desirable factors. A perusal of the result suggest that private Chemical industry has incorporated more desirable factors than their counterparts. It would be wise if other industries also incorporate such desirable factors for their growth and advancement. Focus on Individual effectiveness, Group effectiveness and Organizational effectiveness across thirteen organizations in the study

It would be recalled that the sample of the study was split in a 2 x 3 (Ownership x Industrial categorization) scheme with a view to examine the similarities and differences across these two factors with respect to the variables of interest in the study. Consequently, it was decided to explore the variations across ownership and industries with respect to the three major outcome variables, namely individual, group, and organizational effectiveness. Three separate multivariate analyses of variance (MANOVA) were calculated for the various components of these three major indexes of effectiveness.

More specifically, the MANOVA was calculated for (a) the two second order factors of individual effectiveness (SF 10: fulfillment of recognition and autonomy needs, security and altruistic needs) and SF 11: satisfaction with excellent work condition, satisfaction with omnibus success. (b) One second order factor of group effectiveness (SF 17: group learning, group growth level, group's recognition, group goal accomplishment) and (c) one second order factor of organizational effectiveness (SF 18: actual innovation, premium on incorporation of the milieu, adaptability to suppliers, customers and competitors, team building, esprit de corps).

By looking at MANOVA results, (Table 33 and Table 34) we find that there was no significant difference between public sector organizations and private sector organizations in terms of fulfillment of recognition, autonomy, security and altruistic

needs, a component of individual effectiveness. Organizations do not differ across the three industries too i.e., Textile, Chemical and Mechanical industries. The interaction effect of ownership and Industrial categorization show that private Textile industry scored higher ( $M = 7.77$ ) as compared to public Chemical industry ( $M = 6.87$ ) and private Mechanical industry ( $M = 6.91$ ) i.e. organization labeled as 'b' and 'f' Figure 12. Thus, it could be inferred that both public and private Textile industry are doing better among its counterpart organizations; when certain need fulfillment of role incumbents is the concern; whereas public Chemical industry and private Mechanical industry seem to be least bothered about such a major concern. A better strategy for these organizations would be to pay attention towards fulfillment of recognition, autonomy security and altruistic needs of the employees, if they want to make the most from their work force. Personal need satisfaction is an important concept in itself and even at macro structural level such concepts cannot be ignored.

The MANOVA results concerning satisfaction with excellent work condition and omnibus success (SF 11 another factor of individual effectiveness) as a dependent measure and the thirteen organizations as treatment factor did not yield any significant difference among the organizations. The detail description of the result is presented in result section, but graphical representation for SF 11 could not be given as organizations do not significantly differ from each other on ownership and industrial categorization. The reason could be that at structural level a concept like individual effectiveness may not have much significance. Individuals are generally the same across organizations in terms of personal effectiveness dimension and it is the management style, work group dynamics, technical, economical and certain other environmental aspects which make organizations differ. However, individuals

working in the organizations are the primary functional units upon which the whole organization functions, hence the organizations should show concern towards excellent work condition and omnibus success i.e. individual effectiveness.

The MANOVA results (Table 35), treating group effectiveness as dependent measure, suggest that in terms of ownership the private sector is significantly different from public sectors when group effectiveness is the concern. Seeing the mean difference it could be said that private sector organizations scored higher ( $M = 13.38$ ) on group effectiveness variable compared to public sector organizations ( $M = 12.13$ ). The interaction effect of ownership and industrial categorization suggest that organization "d" (Figure 13) which is a private Textile manufacturing organization; has the highest mean score ( $M = 14.44$ ) and it is significantly different from organization "b", an organization of Chemical engineering in public sector ( $M = 11.58$ ), organization "c", an organization of Mechanical engineering in public sector ( $M = 12.39$ ), organization "a", public sector industry belonging to Textile engineering, and lastly from "f" (Figure 13) a private sector industry belonging to mechanical engineering ( $M = 12.59$ ). There is no significant difference between organization "d" textile industry in private sector ( $M = 14.44$ ) and organization "e", Chemical industry in private sector ( $M = 13.92$ ). Although this Chemical industry in private sector scored significantly higher than Chemical industry in public sector. It is a known fact that in India there is a vast difference between public and private sector industries. A perusal of discriminant analysis (Table 30 to 32) done at structural variables present a similar scenario. Though public sector offers job security and many other fringe benefits, it still lacks some of the important considerations, namely, group learning, job enriched at group level, group's recognition and groups goal accomplishment as compared to private sector industries.

And even among private sector industries, the Mechanical industry seem to show the least concern in this regard. Based on the data collected from different organizational sectors, it could be said that the Textile industry in private sector is highly aware about group effectiveness. This may be one of the reasons that private Textile industry is in gaining position. It would be wise for other industries to think in terms of group effectiveness.

A perusal of MANOVA results treating organizational effectiveness as a dependent variable (Table 36) suggests that again private sector scored higher ( $M = 17.02$ ) in comparison to public sector ( $M = 14.97$ ). Whereas there is no significance difference among organizations in terms of industrial categorization, their mean score are similar (Textile group  $M = 16.49$ , Chemical group  $M = 16.24$ , Mechanical group  $M = 15.57$ ). This could mean that the component of organizational effectiveness does vary along different industrial sectors. But the ownership pattern of organizations does deal with organizational effectiveness differently. The interaction effect of ownership and industrial categorization is significant ( $F(2244) = 13.06, p < .01$ ). The Textile industry belonging to private sector i.e. organization "d" has the significantly high mean score ( $M = 18.86$ ) compared to its counterparts both at public & private sectors and across industries (figure 14). Chemical industry in private sector has also mean score significantly higher ( $M = 17.59$ ) than organization "b" Chemical industry in public sector ( $M = 14.95$ ), organization named "c" Mechanical industry in public sector ( $M = 15.32$ ) organization named "f" Mechanical industry in private sector ( $M = 15.94$ ) and from organization "d" Textile industry in public sector ( $M = 12.62$ ). The organization 'f', 'c', and 'b' have also scored higher than organization "a". This could be inferred that organization "a" which is a textile industry in public sector is doing very poor, thus may not be

considered as an effective organization at all. Apart from this conclusion made from the collected data analysis, this is a fact which is already almost proven in Indian business setting. The Textile industry in public sector is on decline and just opposite the same industry in private sector is on the top. This may be due to the vast difference between the nature of Indian private and public sectors, especially where a major important concept like organizational effectiveness is concerned. Because it is ultimately the effectiveness of an organization which makes it a success or a failure.

### **Diagnosis of Organizational Effectiveness**

It would be recalled that the major construct to be explored in this research endeavor was that of effectiveness. Effectiveness, in turn was conceptually subdivided into three parts. These were (a) individual effectiveness, (b) group effectiveness and (c) organizational effectiveness. A number of statistical analytical techniques were employed with a view to explore the important variables associated with these three. The analyses were done at the second order factor level as well as the first order factor level. The specific results have been discussed earlier. Having discussed the specific results it was thought to be useful to look for a set of variables that time and again show important relationships with the effectiveness criteria. The idea is that if certain variables are identified which emerge as having important relationships with the effectiveness criteria, then they could possibly be treated as the variables that have a rather important status in organizational dynamics and consequently deserve special attention from the behavioral scientists and the real life practitioners. In the following section an attempt is made to identify such variables.



If one looks at the canonical correlation and the multiple regression analyses (Table 17 to 21) done with the three effectiveness criteria, six second order factors may be identified that emerge as common across the analysis. These were the following.

1. SF3. This second order factor is composed of the following first order factors, namely F39 (depicting a concern with autonomy), F38 (task identity) and F 37 (task significance). Thus an overall sense the second order factor SF3 represents task characteristics.

2. SF6. This second order factor is composed of the following first order factors, namely F94 (depicting a concerned with group growth), F 95 (quality concern), F96 (management support), and F 97 (transformational leadership style). Over all SF6 represents the management practices.

3. SF 8. This second order factor is composed of the following first order factors, namely F 50 (facilitating organizational climate), and F51 (motivation management plans). SF8 thus depicts the concern with organizational support variables.

4. SF 13. This second order factor is represented by the following first order factors, namely F115 (formalization) and F116 (bureaucratization). In overall terms SF13 represents the group characteristics.

5. SF 14. This second order factor is composed of F72 (group's participative orientation), F73 (groups motivation for goal oriented activity), F85 (high performance goals). Thus, an over all sense, the second order factor SF14, represents the groups value, climate and culture characteristics.

6. SF 16. This second order factor is composed of the following first order factors, namely F128 (nonenactment of roles of entrepreneur, negotiator, figurehead, resource allocator), and F129 (non enactment of monitor and disseminator roles).

Thus, the second order factor SF16, over all, represents the group's value climate and culture characteristics.

The composition of the salient variables of organizational relevance has just been described in terms of the second order factors and their constituents in terms the first order factors. Apparently one may suggest that the second order factors are the constructs to be dealt with when parsimony and ease of operation in dealing with variables contributing to effectiveness criteria is aimed at. Slightly more involved attitude toward organizational analyses and understanding may warrant dealing with the first order factors. However, for a relatively detailed diagnostics, the components of the first order factors need to be detailed with greater coverage. Following is an attempt in that direction.

The first of the salient second order factors, namely SF3 consisted of the three first order factors F37, F38 and F37. Out of these the F37 is composed of the following three items.

1. My job is quite important for the organization I am working.
2. The prestige of my job is high in the organization I am working.
3. My job has important and significant objective.

The second first order factor F38 was composed of two items reflecting Task identity and could be identified with the following items,

1. I get the opportunity to do a job from the beginning to end (i.e. the chance to do a whole job).
2. I generally see projects or jobs through to completion.

The third first order factor F 39 was composed of five items reflecting Autonomy. This could be identified with the items listed below.

1. In my job I get opportunity for independent thought and action.

2. My job permits me to decide on my own how to go about the work.
3. I am able to act independently of my supervisor in performing my job function.
4. I have much control over the pace of my work.
5. I am able to choose the methods of doing my work.

The next set of first order factors to be discussed are F94, F95, F96 and F97. These first order factors are concerned with Management practices variables. F94 is composed of nine items, known as Group growth concern. This could be identified with the following items.

Management provides opportunity;

1. For independent thought and action
2. To know whether an employee is performing his/her job poorly or well.
3. To do a number of different things.
4. To do a job from beginning to end (i.e. the chance to do a whole job.)
5. For the freedom to do pretty much the same that group members/employees want on their job.
6. For the feeling of worth while accomplishment in job.
7. The opportunity in job, for participation in the determination of methods, procedures, and goals.
8. To learn new things from the work.
9. To be creative and imaginative in work.

F95 consists seven items, known as Quality concern. It can be identified with the items given below .

Management actively work towards the following within work unit;

1. Team building
2. Link all people (linking all the levels in the company)

3. Self development
4. improvement in quality
5. Waste reduction
6. Self development
7. Improvement in productivity

F96 is composed of 10 items of Management support. This construct can be identified with the following statements.

1. It is easy to get support from my management in my organizations on genuine issues.

2. Management pays attention to the 'say' of it's employees.

3. Management is always willing to sort the problems of employees / groups.

4. Management supports the initiative taking behavior of the employees.

5. Management is willing to support the decision taken by group / employees.

6. Management supports the team work with in and between groups.

7. Management provides counseling to the employees when their fear and anxiety is high.

8. Due recognition is given to the efforts of the employees by management.

9. Employees' efforts are valued and supported by the management.

10. The management responds favorably to the group's requests for action.

Lastly F 97 is composed of twenty items, called as Transformational leadership style. The construct is marked by the following statements.

The leader/boss:

1. Demonstrates an empowering attitude i.e. makes people feel that they are worth while and important for the organization.

2. Is clear about the mission, purpose and goal of the organization.

3. Is a good team builder, capable of generating positive feelings among the members.

4. Has care and concern for the individual's work as well as their personal problems.

5. Evokes a sense of trust and confidence by his behavior.

6. Gives people complete freedom to decide, evolve, plans and strategies at work.

7. Very particular about the speed and quality of work done.

8. Values and appreciates good work.

9. Gives adequate responsibility for job performance.

10. Is intellectually of high caliber.

11. Encourages the total development and growth of people when needed.

12. Provide clear instructions on what to do and what not to do.

13. Protects and supports when people needed.

14. Technically very sound and knowledgeable.

15. Consults relevant people before taking decisions concerning them and their departments.

16. Considers genuine mistakes at work to be part of the learning process, but does not tolerate repeated mistakes due to carelessness.

17. Is totally logical and data based and does not believe in relating on the level of feelings and emotions.

18. Generally adheres to the organizational rules, procedures and regulations.

19. Treats organizational members like his brothers.

20. Believes in consensus building before taking a decision.

Coming to the first order factors F50 and F51, it is seen that these first order factors are related to Organizational support variables. Where F 50 is named as Facilitating climate of work unit, F 50 can be identified in terms of the given statements.

1. Superior emphasizes high standard of performance, and sets an example by working hard himself.

2. Superior helps achieve goal attainment through such activities as scheduling, coordinating, planning, and providing resources.

3. Superior encourages the development of close, mutually satisfying relationships with the groups.

4. Superior plans and coordinates the groups activities so that maximum performance is possible.

5. Individual at this place believe that their organization performs an important function, and offers unique opportunities for growth and development.

6. Our management is willing to take a chance on good idea.

7. Majority of people feel that their job make a meaningful contribution, and is important to the organization.

8. Individuals at this place believe that their profession had a good image to outsiders, and provides opportunities for growth and advancement.

F51 is known as conducive motivation management and can be identified with the given items.

1. My organization sets up specific and challenging goal to it's employees.

2. In my organization jobs are designed according to individual's capacity and ability.

3. My organization supports wellness programs that focus on the employee's total physical and mental condition.

4. In my organization decision making is participative.

5. There is greater job freedom and discretion.

6. My organization gives rewards to the employees on the basis of their effort and performance.

7. My organization over reward those employees who put more effort and produce role.

8. My organization provide appropriate feedback to the employees.

Another important first order factors are F 115 and F 116. Both the factors belong to Group characteristics variables in which F 115 is concerned with Formalization and F 116 is concerned with the construct of Bureaucratization. Further, the first order F115 is composed of the items given below.

1. Who is given a copy of the organizational chart?

2. What percentage of non supervisory employees are given written operating instructions?

3. What percentage of employees in your organizational unit turn in a written report on a regular basis?

Are written terms of reference or job descriptions given to the following?

4. Head of the organizational unit.

5. Supervisory employees.

6. Non supervisory employees.

7. Is a manual of rules and regulations available?

8. Is a written statement of policies available?

9. Is a written work flow schedule available?

Secondly, the first order F 116 is marked by three items written below

1. To what extent is there a division of labor in your work group?
2. To what extent the work group recognizes the importance of having the authority and power to carry out assigned duties?
3. To what extent the work group follows the principle of hierarchy; i.e., a member of a lower hierarchy is under the control and supervision of a higher one "with in the group".

The next group of first order factors to be considered are F 72, F 73 and F 85. All of these factors are part of value, climate and culture characteristics at group level. Out of these F 72 is named as Group's participative orientation, the items contributing to this factors are the following.

1. The group members consider it right and proper to engage in the decision making process.
2. In general the group members feel fairly satisfied as a result of participation in the group activities.

F 73 is named as Group's motivation for goal oriented activity, items contributing to this factor are given below.

1. Group members are highly motivated to work for the goal of the group.
2. The group members show a high degree of participation in the setting of the new group goals.

The construct High performance goals is marked by F 85 incorporating three items.

The items are, as following:

1. My group members believe that specific and difficult goals lead to higher performance.



2. My group believe that the goals tell an employee what needs to be done, and how much effort will need to be expended.

3. My group likes to have challenging goals because challenging goals not only help the group members perform better, but can also be an important means of improving career opportunities of the group members.

Lastly, F 128 and F 129 the first order factors belong to Value climate and culture variables at group level are discussed. These factors are concerned with certain managerial roles and are part of Group's value climate and culture characteristics. F 128 deals with Role enactment of figure head, entrepreneur, resource allocator and negotiator. F129 deals with Role enactment of Monitor and Disseminator. The items of F 128 and F 129 could be identified with the following statements.

Please identify the relative importance of various managerial activities you perform as a manager.

1. Figure head; Activities involving ceremonial, social or legal duties.
2. Entrepreneur: Searching for business opportunities and planning new activities for performance improvement.
3. Resource allocator: Dealing which organizational units get what and how much resource.
4. Negotiator: Negotiating with employees, customers, suppliers, and unions.
5. Monitor: Seeking and obtaining information through verbal and written communication media.
6. Disseminator: Transmitting information to subordinates.

After going through second order factors, first order factors and basic factor structures of first order factors, a clear picture of variables contributing to the individual, the group and the organizational effectiveness, has emerged. In a simple

way it may be said that these many variables have been found predicting effectiveness at all the three levels in organizations.

In the last, it seems important to discuss the dependent variables on all the three levels of effectiveness. That is to say, the second order factors, the first order factors and the basic factor structure of Individual effectiveness, Group effectiveness and Organizational effectiveness should also be made apparent. In the second order factor analysis two components of Individual effectiveness emerged, they were SF 10: Individual need fulfillment, and SF 11: Value realization. Jointly they were given the name of Individual effectiveness. The Group effectiveness emerged with only one second order factor, known as SF 17 so did the organizational effectiveness named as SF 18.

To bring about the basic nature of the variables we now discuss the results in terms of first order factor analysis. The construct of Individual effectiveness is comprised of F 62, F 63, df 11 and df 12. F 62 was named as fulfillment of recognition and autonomy needs, and it consisted of five items, given below.

I have been able to attain:

1. The feeling of self esteem a person gets from being in my management position.
2. The prestige of my management position inside the company (i.e., the regard received from others in the company).
3. The opportunity for independent thought and action in my management position.
4. The opportunity in my management position, for participation in the setting of the goal.

5. The opportunity in my management position for participation in the determination of methods and procedures.

F 63 was named as Fulfillment of security and altruistic needs, comprised of two items stated below.

I have been able to attained:

1. The feeling of security in my management position.
2. The opportunity in my management position, to give help to other people.

DF 11 and DF 12 are concerned with the satisfaction of certain values held by individuals. This satisfaction score was gained through deriving discrepancy score between the aspired values and attained values. The factor structure of DF 11 was called as satisfaction with excellent work condition. This factor could be identified as based on the following items.

1. Excellent boss.
2. Excellent physical work condition.

The factor structure of DF 12 was called as satisfaction with omnibus success. The items could be identified as based on the items given below.

1. Excellent physical health
2. High education.
3. Accomplishing in life the goals I determined for myself.

The Group effectiveness variables are comprised of F 84, F 123, F 124 and F 127. The first order factor F 84 is related to the construct of Group learning, F 125 is related to Job enriched at group level, F 124 is related to Group's recognition, and F 127 is concerned with Group goal accomplishment. The items comprising F 84 are as follows.

1. The group members actively engage themselves in the processes of detecting errors as a response to changes in the internal and the external environment of the group.

2. The group members carry out inquiries which yield discoveries inventions and evaluations pertaining to group's strategies and assumptions.

3. The group member correct errors so as to maintain the central features of the group's theory-in-use (strategies, and established ways of functioning).

4. The group's strategies and assumptions are modified within the range set by organizational norms for performance.

5. The changes / modifications are regularized so that they are unaffected by some individual's departure.

6. The new members learn these new features of group's theory of action as part of their socialization to the organization and in the group.

7. The group members carry out those sorts of group related inquiries which resolve incompatible group norms;

(a) by setting new priorities and weighting of norms,

(b) by restructuring the norms themselves together with associated strategies and assumptions.

8. The group member while carrying out inquiry into internal and external environment of the organization also inquire into previous episodes of error detection and correction, its failure and success.

F 123, representing Job enriched at group level is composed of four items. These are as follows.

1. The level of personal growth and development of group members is improved in the job.

2. The group members get the feeling of worthwhile accomplishment from doing their job.
3. The group member can exercise independent thought and action in their job.
4. The group members get the feeling of challenge in their job.

The factor structure of F 124 representing Group's recognition given below,

1. My work group has been given special reward for its effort in the organization.
2. My work group has a special recognition in the organization.
3. My work group is well known even to other organizations which are associated with my organization.

The factor structure of F 127 representing Group goal accomplishment is comprised of three items. The items are as follows.

My work group works toward the accomplishment of:

1. The immediate goals of the group/organization.
2. The distant goals of the group/organization.
3. The manifest goals of the group/organization.

The organizational effectiveness variables are composed of F 109, F 110, F 112, F 114 and F 133. The first three factors F 109, F 110 and F 112 belong to same scale, 'control of the surrounding environment.' Where as F 114 is concerned with 'team building', and F 133 is concerned with 'Espirit de corps's. Factor structure of F 109 representing Actual innovation can be understood in terms of the following items.

What has been the extent of organization's actual innovation in terms of;

1. New managerial systems.
2. New services
3. New technologies.

4. To what extent the organization is efficient in creating products and services of maximum value at minimum cost or expense taking the overall product value by cost ratio.

The factor structure of F 110 representing Premium on incorporation of the milieu is comprised of ten items illustrated below.

To what extent your organization puts premium on:

1. Incorporation of its milieu into itself (i.e. extension of organizational boundaries, e.g. by purchasing the source of its raw materials, building a company town, taking over competing firms; or influencing clients and customers through expenditure on information and advertising).

2. Seeking to build support in unorganized public and in organized groups through extensive public relations campaigns against some future crisis.

3. Gearing into (establishing functional linkages with) larger system.

4. Supporting laws and governmental regulations that would keep off multinational or unmanageable powerful competitors.

The first order factor F 112 representing Premium on adaptability to suppliers, customers and competitors is composed of the following components.

To what extent the organization is capable of adapting to changing conditions in terms of;

1. Its suppliers.

2. Its customers.

3. Its competitors.

The first order factor F 114 as mentioned earlier is named as Team building. It has four items in number and can be identified with the given statements.

How effective your organization is at:

1. Generating high interaction among group members.
2. Increasing trust and openness.
3. Setting structured goals for work teams.
4. Improving the process to make work team more effective.

The last factor needs to be discussed is F 133. This factor is concerned with the morale of the role incumbents and this can be identified with the items appearing below.

1. The members take pride in their group.
2. An individual believes that his organization performs an important function and offers unique opportunities for growth and reward.
3. An individual believes that his profession has a good image to outsiders and provides opportunities for growth and advancement.

To conclude the present section it may be said that apart from specific results, an attempt has been made to identify some salient features operationalized in terms of the variables of organizational relevance that seem to contribute simultaneously to all the three forms of effectiveness namely, individual, group and organizational effectiveness. The salient variables may be mapped through the 144 items mentioned above. For specific understanding, the statistical properties appearing in appendix E may be referred to. However, for general purposes a high score on these items would mean a desirable state of organizational dynamics that may be conducive to the effectiveness criteria.

## The Summing Up

The study was taken up with a concern toward a relatively better understanding of the structure and dynamics of a construct identified as effectiveness within a frame work that could be of relevance to the behavioral scientists and the practitioners of human resource management working in the area of organizational behavior. A closely related concern was to understand the structure and dynamics of certain other variables in organizational frame-work with a special reference to the Indian setting. A need for this was felt primarily because of the growing realization of the cross-cultural variations in the exact nature of relationships among relevant variables across cultures. The results indicated that the construct of effectiveness is an important concept and that there is some merit in understanding the construct of effectiveness in terms of three categories, namely the individual effectiveness, the group effectiveness, and the organizational effectiveness.

The study could specify (a) the empirical dimensions of the constructs under study, (b) the interrelationships between the dimensions of two or more constructs (c) the personal and the organizational factors that significantly contribute to the three types of effectiveness and (d) the "effect" of the type of organizational ownership the industrial categorization on the constituents of the three types of effectiveness. Besides it could be shown that the organizations that are high and low in terms of the operationalized index of effectiveness could be adequately discriminated in terms of certain variables. It may be noted that the organizations identified to be the least and the most effective of the organizations in the sample of the study corresponded to the least and the most effective status accorded by the persons acknowledged to be knowledgeable with respect to the current business or



organizational scenario. This may be taken to be a supportive evidence of the classificatory power of the variables in the study.

The highlight of the study might consist in the identification of the construct of effectiveness, the classification of effectiveness into three categories, and the identification of their empirical dimensions. Additionally the study incorporated several of the organizationally relevant variables, many probably for the first time in the study like this one in Indian setting, and could show interrelationships among those variables which could be treated as the stepping stones for future exploratory and confirmatory research toward a more complete understanding of the organizational dynamics with particular reference to the construct of effectiveness in all its three shades. An important insight was that the construct of individual effectiveness, while important in its own right has relatively little to contribute to the group and the organizational effectiveness. Hence, the adage of any one highly effective person energizing the group or the organization needs to be reevaluated more thoroughly.

In addition to the process variables, apparently the structural variables are also important and therefore a suggestion may be made that the intervention attempts should take into account the differences in terms of Industrial categorization and ownership of the organizations. Further, the variables in the study could significantly demarcate between the organization in terms of industrial categorization and ownership. Such knowledge may be useful to the organizational designers who look forward to affecting organizational changes in directions that would make an organization closer to the better ones in the industry.

### Implication of the Study

The present investigator feels that the study has been successful in bringing out the need to realize the importance of the construct of effectiveness in three identifiable categories, namely the individual, the group, and the organizational effectiveness. The study could identify the variables associated with more effective organizations. The less effective organizations could probably benefit by utilizing this knowledge.

Several variables were identified that could successfully discriminate between the categorical aspects of organizations. This could be useful to the personal managers for diagnostic purpose in selection, placement, promotion, or may be even dismissal of a role incumbents.

The study could also specify the nature of precise relationships among the dimensions of the variables in a rather comprehensive manner, the knowledge of these relationships may be utilized, by the dominant coalitions of the organizations comparable to those in the study, in order to enhance the quality of decisions regarding recruitment, placement promotion etc. of the role incumbents or may be regarding the totality of the organizational dynamics itself; and of course, regarding the enhancement of effectiveness at the individual, the group or the organizational levels according to the specific needs.

It needs to be pointed out that owing to the rich data base and intricate results, the findings of theoretical importance are so numerous that dealing with each of them once again at this point would amount to a voluminous repetition of the facts that have already been detailed at appropriate places in the results and discussion sections. While admitting the fact that the discussion section has not dealt with each and every speck of findings, it is urged with utmost humility that the results section itself, and of

course the discussion section should be reviewed with an eye to the theoretical implications of the study. The future academic endeavors might make use of the present study as stepping stone for further exploratory and confirmatory research toward a more complete understanding of the effectiveness considerations in particular and the related organizational dynamics in general.

### **Limitations of the Study**

A good amount of care was exercised in execution of the present study. Never the less it does have its share of limitations just as most works of this nature are likely to have. Some of the obvious limitations include the following.

1. The sequencing of variables in a conceptual chain of antecedents and consequences may not be treated as an actual or tested model.
2. No "Objective Criterion" was included in the study for evaluation of performance and effectiveness related issues.
3. The organizations and respondents constituting the sample of the study were marked by heterogeneity rather than homogeneity. Some times heterogeneity of sample is treated as a weakness of the research design. Nevertheless there have been instances where such heterogeneity has been treated to be the strength rather than the weakness of a research (Khandwalla, 1983; 1985; Kaur 1992; Singh, 1986; Shukla, 1989; Srivastva 1990; Kumar, 1995). And it is argued that heterogeneity as a sample contributes towards wider generalizability of the findings. The matter remains debatable besides the non-random sampling imposes further constraints on the generalizability issue.
4. Considering, the number of items, variables and the constructs included in the study, a larger sample size would have been warranted, which could not be feasible

due to constraints of resources. However, an attempt to rescue the situation was made wherever possible by using methods and criteria of variable selection, to keep the number of included variables to the minimum possible. Further, use was made of the "second order factors" that were considerably less in number.

### **Suggestion for Future Research**

The experiences gained during the execution of the present research endeavor impelled the investigator to realize the limitations mentioned above and consequently some of the future prospects could be realized. The important ones are mentioned below.

1. Sequential causal ordering of the constructs for the model testing may be better understood by path analytic procedure, others the study may be extended or the existing data base may further be explored by using path analytic procedure including each and every dimension of the constructs in the study.
2. The same project may be taken up in the other types of organizations such as organizations with differing product-mix, service organizations, and common wheel organizations.
3. The study may be extended for other hierarchical levels not included in this study.
4. The study could be done in a longitudinal design.
5. Though it is a difficult proposition in organizational research, a better sampling procedure that would come closest to random sampling and a considerably larger sample size would be highly desirable.
6. Research using active manipulation of some of the variables in the field setting may yield substantially more useful data. The intervention studies allowing for

screening in and screening out the role incumbents with relevant person related variables or characteristics may substantially add or to improve upon the validity of the present finding.

7. The objective or hard criteria could be sought and employed for validation of the relevant variables.

8. Interactive effects of relevant variables could be examined on thrust variables and the outcome could be explored.

9. Last but not the least it would be recalled that the construct of satisfaction was operationalized in this study in terms of the scores derived from the need and value realization scores only. Whereas this provided for a bit of methodological elegance toward generating the index of satisfaction, it posed a serious methodological constraints as well due to which certain needs and value realization could not be evaluated directly against satisfaction as the criterion. This was rather unfortunate. In future studies, it is strongly recommended to find some way out of this problem of course, the most usual approach would be to include an "additional" measure of satisfaction, not based on derived scores. But it would be much better if one could think of desiring a measure of satisfaction that would not be based on derived scores yet would be related to each and every aspect of need, and value realization dimensions so that a direct evaluation of need, and value realization with satisfaction may be possible, as they signify a desirable state of existence.

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## Appendix - A

### Maturity Questionnaire

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

- (True) to almost no extent = 1
- (True) to a small extent = 2
- (True) to some extent = 3
- (True) to a great extent = 4
- (True) to a very great extent = 5

Your response should be indicated by writing the corresponding numbers (1-5) on the separate answer sheet provided for this purpose.

- 1. My past job experience has great relevance to the current job I am holding.
- 2. I possess necessary knowledge to a high degree to do my current job well.
- 3. I have a high degree of understanding of what needs to be done in terms of my present job requirement.
- 4. I can work on my own without any direction from my boss.
- 5. I am capable of handling most of the job relevant tasks quite independently.
- 6. I possess a high degree of skill to do various kinds of jobs (job is taken as a part of work).
- 7. I work in the aspect of job where I can fully utilize my talents.
- 8. If I put all my skills to proper use, I can make any job (in my work) a clear success.
- 9. I am more eager to do tough jobs than easy going ones.
- 10. I am prepared to take a high degree of responsibility in my job.
- 11. I am eager to achieve high in my work related area.
- 12. I enjoy my work.
- 13. I have great respect for time boundaries.
- 14. I am usually confident that I would successfully execute most of my job assignments.

----- 15. I generally carry out my job according to their precise time frame.

----- 16. I take my job seriously and I put all my efforts to do it well.

### **Individual Behavior Norm Questionnaire**

Please rate yourself on the following aspects of behavior. There are no absolutely correct answers. Therefore, kindly try to be as honest as you can while responding.

----- 17. I am punctual in maintaining schedules.

----- 18. I spend much more time doing my job related work than is required by the formal rules.

----- 19. I help others grow on job as much as I can.

----- 20. I put the maximum possible hard work.

----- 21. I abstain from activities that could be dysfunctional from the professional point of view.

----- 22. I seek for the opportunities from which myself and my organization can gain professional advantage or profit.

----- 23. I involve myself as well as others in work quite much so that desired results can be achieved quickly.

----- 24. Whenever the task/employee related problem arises, I usually take great initiative to solve the problem.

----- 25. I make efforts to keep pace with environmental changes both inside and outside the organization in order to keep myself uptodate in terms of skills, abilities and performance standards required.

### **Self Limiting Behavior Questionnaire (Part 1)**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

(True) to almost no extent = 1

(True) to a small extent = 2

(True) to some extent = 3

(True) to a great extent = 4

(True) to a very great extent = 5

----- 26. In general I don't like my job. R

----- 27. I am most interested in things I usually do around the house or in the community.

----- 28. Moving ahead on my job is not so important to me that I would give up my other life activities.

----- 29. I avoid working late at night. R

----- 30. I work better in a group.

----- 31. I do what I am paid for but really can not see why I should be working extra hard or take responsibilities that are additional. R

Note. The above scale was not included in the final analysis because of low alpha coefficient during the analysis of pilot study data.

### **Self Handicapping Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

- |                               |     |
|-------------------------------|-----|
| (True) to almost no extent    | = 1 |
| (True) to a small extent      | = 2 |
| (True) to some extent         | = 3 |
| (True) to a great extent      | = 4 |
| (True) to a very great extent | = 5 |

----- 32. I always look for the opportunities which improve my performance. R

----- 33. I attempt to mold the conditions so as to create conditions that are facilitating to my performance. R

----- 34. I see to it that others do not unnecessarily make a negative evaluations of my performance. R

----- 35. Although I possess a fair degree of my job relevant ability yet I keep on doubting my ability for some reason or the other.

----- 36. My work situation puts constraints upon my social responses (such as warmth in greeting people).

----- 37. I find that I am not able to put in full amount of effort I am capable of. Some how the effort is diminished.

----- 38. Due to my poor health I am not able to contribute in my work according to my caliber.

---- 39. I am always ready to face the (working) situations where my work is being evaluated, without bothering whether the work will be evaluated positively or negatively. R

---- 40. I don't get anxious in the presence of others while working. R

---- 41. I am a good performer and by chance if there is a poor performance it's because of the causes beyond my control not due to my lack of effort. R

---- 42. If my worth is to be evaluated I would like it to be on the basis of my totality of my existence (including my character, personality, contribution to the common good etc.) rather than just on the basis of task performance.

---- 43. I am always ready to have my work evaluated by anybody, at anytime without least bothering about the evaluation being positive or negative. R

---- 44. Presence of others at my work doesn't cause any anxiety to me. R

---- 45. I don't know what is wrong with me but whenever I start working I meet one or the other health problem (example symptoms like feeling weak or a sense of being unwell, pains, aches etc.).

---- 46. Every work effort has its own share of handicaps usually I don't give a damn to them and go ahead with my efforts. R

---- 47. I create my own ways of doing things so that I succeed and do not get down by handicaps. R

### **Procrastination Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

Please follow the same 5 point scale mentioned earlier also.

---- 48. I don't make delays in beginning or completing a task. Delay make me uncomfortable.

---- 49. I usually do not display my abilities and strengths. Others usually don't have a true /correct perception of my real abilities.

---- 50. I believe that it is better to do nothing than risk failure or look foolish.

---- 51. I believe that it is better to start doing something rather than wait endlessly for the risk of failure or looking foolish. R

---- 52. I do not worry about being evaluated negatively by others.

---- 53. I am careful to maintain & protect my public image.

----- 54. Most of my failures at work are caused by factors beyond my control such as lack of time, lack of resources etc.

----- 55. I am a great stickler to perfection. I do things the most possible perfect way.

----- 56. By and large, I see myself as an anxious person.

### **Self Limiting Behavior Questionnaire (Part 2)**

Think about the behavior in groups in which you are a member and think about the conditions under which you are inclined to withdraw from actively participating or contributing to such groups. Below is a list of statements which reflect these reasons. Please review each statement and then decide how frequently you would behave in the manner described given the circumstances. Please read the item as "I am inclined to reduce my efforts, to influence or contribute to the performance of a group's task" prior to each statement.

Please respond by using the 5 point frequency scale ranging from NEVER=1 to VERY FREQUENTLY=5.

----- 57. When the group members are frustrated or disillusioned about the purpose of the meeting.

----- 58. When I feel the outcome will have no effect on me.

----- 59. When additional influence attempts will not significantly increase the quality of outcomes.

----- 60. When someone in the group agrees to take the responsibility to accomplish the task alone because the group has been unsuccessful.

----- 61. When one or more members of the group have had previous experience with a problem similar to the one faced by the group.

----- 62. When a member of the group has demonstrated a strong commitment to a plan of action.

----- 63. When someone with demonstrated initiative takes control.

----- 64. When at the onset of the meeting, someone presents a compelling idea which I can support.

----- 65. When someone who is trying to influence the group has values similar to my own values.

### Work Ethic Questionnaire

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

Please respond on the 5 point rating scale mention earlier.

- 66. Hard work makes oneself a better person.
- 67. Wasting time is as bad as wasting money.
- 68. A good indication of a person's worth is how well (s)he does his/her job.
- 69. If all other things are equal, it is better to have a job with a lot of responsibility than one with little responsibility.
- 70. The principal purpose of a person's job is to provide him/her with the means for enjoying his/her free time. R

### Biographical Inquiry

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work.

71. Number of changes made so far in the assignments or job titles after getting the very first assignment in life\_\_\_\_\_.
72. Number of promotions, if any\_\_\_\_\_.
73. Your age (in years)\_\_\_\_\_.
74. Total length of service(in years)\_\_\_\_\_.
75. Length of service in the present position\_\_\_\_\_.
76. Your basic pay scale per month\_\_\_\_\_.
77. Approximate gross income per annum\_\_\_\_\_.
78. Direction of last change in assignments (switching over) from a public to a private employer or organization; or vice versa, if any\_\_\_\_\_.
79. Number of similar assignments or job titles held so far but on different on occasions (e.g., assistant manager twice, or sales supervisor thrice etc.) irrespective of similarity or difference of the employer\_\_\_\_\_.
80. Number of promotions in terms of higher position so far since the very first job you got\_\_\_\_\_.

81. Out of the total assets that you possess today (valued in terms of rupees at the current market price), what percentage is due to your own efforts/contributions relative to inherited property.

1	2	3	4	5
20%	40%	60%	80%	100%

82. Last academic/ professional degree\_\_\_\_\_.

83. Your over all academic record (check one).

1	2	3	4	5
very poor	poor	fair	good	very good

84. Extent of participation in extra curricular activities during college period such as debates, dramas, music, N.C.C., N.S.S., sports, students union etc.

1	2	3	4	5
almost no extent	small extent	some extent	great extent	V.great extent

85. Number of changes of the departments served in (e.g., from production to sales etc.)\_\_\_\_\_.

86. Number of department to which you belong\_\_\_\_\_.

87. If it can be assumed that the whole hierarchical system of this organization can be divided into three categories only, as follows, kindly put the mark to indicate the level to which you belong.

Upper_____.	(3)
Lower_____.	(1)
Middle_____.	(2)

88. Your designation\_\_\_\_\_.

### **Value Related Efforts Questionnaire**

Read the statements written below and indicate as to what extent do you make efforts to realize them in your personal context of life on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

----- 89. I try to use all my skills and knowledge in work.

----- 90. I try to reach a high standard in my work.

----- 91. I try to be able to get promotion.

- 92. I try to find pleasure in the beauty of my work.
- 93. I try to help others with personal problems at the work place.
- 94. I try to act on my own.
- 95. I try to discover, develop, or design new things.
- 96. I try to have a high standard of living by my earning.
- 97. I try to work in my own style.
- 98. I try to develop as a person through my work.
- 99. I try to get a lot of exercise in my work itself.
- 100. I try to have power and prestige in society because the kind of work that I do.
- 101. I try to take risky decision in my job.
- 102. I try to entertain friends and relations during working hours.
- 103. I try to have a network of friends and relations in my work place.
- 104. I try to do a number of different things during the typical work day.
- 105. I try to have a comfortable work place.
- 106. I try to do work that gives me inner happiness.
- 107. I try to have comfortable life at the work place.
- 108. I try to oblige those who work around me.

### Chinese Value Survey

There are two types of instructions written here. Please read them carefully.

Instruction no. A.

The aim of this study is to find out what matters are important to people. Please indicate how important to you is each of the items. To express your opinions, follow the given scale that varies from 1 to a maximum of 5.

Scale:

No importance to me	= 1
Little importance to me	= 2
Moderate importance to me	= 3
High importance to me	= 4
Extreme importance to me	= 5



You concentrate better by asking yourself the following question when you rate an item: How important is this item to me personally? Repeat the same question when you rate the next item.

Instruction no. B.

Here we want to know what values are satisfied in your work activities or are expected to be satisfied. Please read each statement carefully and then use the following scale to show how much chance you see to satisfy each value in your work activities.

Scale:

None	= 1
Little	= 2
Some	= 3
Quite a lot	= 4
A great deal	= 5

Response to instruction no.

A      B

Dimension 1

- |      |      |  |
|------|------|--|
| ---- | ---- | 109 (137). Tolerance of others.  |
| ---- | ---- | 110 (138). Harmony with others.  |
| ---- | ---- | 111 (139). Solidarity with others.   |
| ---- | ---- | 112 (140). Non-Competitiveness.  |
| ---- | ---- | 113 (141). Trust worthiness.   |
| ---- | ---- | 114 (142). Contentedness.  |
| ---- | ---- | 115 (143). Being conservative.   |
| ---- | ---- | 116 (144). A close, intimate friend.   |
| ---- | ---- | 117 (145). Filial piety (obedience to parents, honoring of ancestors, financial support of parents). |
| ---- | ---- | 118 (146). Patriotism.   |
| ---- | ---- | 119 (147). Chastity in women.  |

Dimension 2

- |      |      |                                    |
|------|------|------------------------------------|
| ---- | ---- | 120 (148). Ordering relationships. |
|------|------|------------------------------------|

- 121 (149). Thrift .
- 122 (150). Persistence (perseverance).
- 123 (151). Having a sense of shame.
- 124 (152). Reciprocation.
- 125 (153). Personal steadiness.
- 126 (154). Protecting your "face".
- 127 (155). Respect for tradition.

### Dimension 3

- 128 (156). Kindness (forgiveness, compassion).
- 129 (157). Patience.
- 130 (158). Courtesy.
- 131 (159). Sense of righteousness.

### Dimension 4

- 132 (160). Moderation.
- 133 (161). Keeping oneself disinterested and pure.
- 134 (162). Having few desires.
- 135 (163). Adaptability.
- 136 (164). Prudence (carefulness).

Note. Item numbers outside the parentheses pertain to instruction A, while those inside the parentheses pertain to instruction B.

### **Learned Helplessness Questionnaire (impaired performance 1)**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

- 165. I always find it easy to learn new things. R

----- 166. My memory is rather sharp I do not forget things easily, I can recall things even after long time gap. R

----- 167. Once I come across some thing such as events, faces, names they get almost permanently recorded in my memory. R

----- 168. I can process large amount of information at one time, I can process even those information which keep coming at high speed. R

----- 169. I can collate the bits & pieces into a meaningful piece of information even if I receive them in fragmented, disjointed & individual forms. R

----- 170. Usually I can find newer solutions to the existing problems. R

----- 171. I work harder or at least the same as other people doing my type of work at this organization.

(emotional deficit)

----- 172. I remain emotionally stable even in face of sudden and demanding work situations. R

----- 173. By and large I feel good and happy about my work. R

----- 174. I usually face spells of depression of mood while at work.

(uncontrollable events)

----- 175. Events in my life have been sudden and unpredictable resulting in negative outcomes.

----- 176. Despite my best efforts I have not been able to figure out what exactly to do to better my lot.

----- 177. If I try to see across this organization I do not find any single set of principles on the basis of which one can be rewarded or promoted.

----- 178. I have a feeling that rewards and promotions out here are a matter of luck and coincidence rather than any directional effort.

----- 179. Things out here seem to be moving so randomly that one's existence can simply be described as a prolonged contact with uncontrollable events.

----- 180. I find myself helpless in dealing with a situation where the goal is set but the method of accomplishing it has not yet been found.

----- 181. For most part of my working time I am mentally engrossed in developing an effective action program regarding my work aspects.

### **Self Monitoring Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

- 182. I would probably make a good actor.
- 183. I have never been good at games like charades or improvisational acting. R
- 184. In a group I am rarely the center of attention. R
- 185. At a party I let others keep telling jokes and stories. R
- 186. I have considered being an entertainer.
- 187. I feel a bit awkward in company and do not show up quite as well as I should.
- 188. I can make impromptu speeches on topics about which I have almost no information.
- 189. I am not particularly good at making other people like me. R
- 190. I find it hard to imitate the behavior of other people. R
- 191. In different situations and with different people, I often act like very different persons.
- 192. I am not always the person I appear to be.
- 193. I guess I put on a show to impress or to entertain people.
- 194. I may deceive people by being friendly when I really dislike them.

### **Private Self Consciousness Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

- 195. I am always trying to figure myself out.
- 196. I reflect about myself a lot.
- 197. I am often subject to my own fantasies.
- 198. I am generally attentive to my inner feelings.

----- 199. I am constantly examining my motives.

----- 200. I am constantly alert to changes in my mood.

### **Public Self Consciousness Questionnaire**

----- 201. I am concerned about the way I present myself.

----- 202. I am self conscious about the way I look.

----- 203. I usually worry about making a good impression.

----- 204. I am concerned about what other people think of me.

----- 205. I am usually aware of my appearance.

### **Private and Public Self Awareness Questionnaire**

Think about your experience in the work group in which you are a member and indicate to what extent do you agree with the following statements. Please respond by reacting to a commonly used 5 point frequency scale ranging from NEVER 1 to VERY GREAT EXTENT 5.

#### **Altered Experience**

When I am in a work group:

----- 206. I have feeling of togetherness among group.

----- 207. Feel active and energetic.

----- 208. Time seems to go quickly.

----- 209. Feel jubilant.

----- 210. Thoughts are concentrated on the moments.

----- 211. Feel glad.

----- 212. Feel gleeful.

----- 213. Willing to volunteer again with the same group.

----- 214. Mind is focused on what is happening around me.

### **Private Self Awareness Questionnaire**

----- 215. Aware of the way my mind was working.

---- 216. Alert to changes in my mood.

---- 217. Aware of myself.

---- 218. Thought about myself a lot.

### **Task Significance Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 219. My job is quite important for the organization I am working.

---- 220. The prestige of my job is high in the organization I am working.

---- 221. My job has important and significant objectives.

### **Task Identity Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 222. I get the opportunity to do a job from the beginning to end (i.e.. the chance to do a whole job).

---- 223. I generally see projects or jobs through to completion.

---- 224. I often do alone everything that is needed to produce an entire product, or provide an entire service.

### **Autonomy Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 225. In my job I get opportunity for independent thought and action.

---- 226. My job permits me to decide on my own how to go about the work.

---- 227. I am able to act independently of my supervisor in performing my job function.

---- 228. I have much control over the pace of my work.

---- 229. I am able to choose the methods of doing my work.

### **Feedback Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 230. I am able to tell from my own observations how well I am doing my work (in terms of quantity and quality).

---- 231. My co-workers workers, supervisors tell me how I am doing my work (in terms of quantity and quality).

---- 232. I get the opportunity to find out how well I am doing my job.

### **Skill Variety Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 233. I get various opportunity to do a number of different things in my job.

---- 234. My job requires me to use a number of complex or high level skills.

---- 235. My job is quite simple and repetitive. R

---- 236. The tasks I perform in a typical working day are quite similar. R

---- 237. In my job I use the same tools, machines, or pieces of equipment over and over again while doing my work.

---- 238. I often work at a fixed location (for e.g.. at one bench or one machine)during a normal work day.

### **Problem Demands in Terms of Time**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 239. I do not get enough time to finish my assignments.

---- 240. I can give better performance if some more time is available at my discretion.

---- 241. Speed of technical change creates problem in my job.

---- 242. A large proportion of my job is a rush job.

----- 243. I do not have sufficient people to carry out the assignments.

### **Achievement power and Affiliatory Relations**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

----- 244. I try to lead other persons and assert myself in groups.

----- 245. I try to influence others toward goal and task achievement.

----- 246. I try to have personal domination over others.

----- 247. I try to have other people do things the way I want them done.

----- 248. I try so that people act friendly toward me.

----- 249. I try to get people to invite me to join in their activities.

### **Individual Effort Performance Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

----- 250. I exert a lot of effort on my job.

----- 251. My effort investment on my job is comparable to the best in the organization (i.e., anyone who belongs to my hierarchical level).

----- 252. Compared to what is considered AVERAGE in this organization the amount of work I put in would be;

1 = very little; 2 = little; 3 = moderate; 4 = high; 5 = very high.

----- 253. I try to give performance of the highest possible order.

254. In terms of the quantity of performance there would be \_\_\_\_\_% of people in my organization who would surpass me in this organization.

Scale:

1% to 20%; 21% to 40%; 41% to 60%; 61% to 80%; 81% to 100%

----- 255. My performance level should be rated as ;

1 = very low; 2 = low; 3 = moderate; 4 = high; 5 = very high.



## Work Motivation

People work for various reasons and mostly there is some reward that they expect out of their work. The reward can be anything, intrinsic, extrinsic materials or abstracts. Please keep in mind the greatest reward that you would like to come your way as a result of your work effort or performance. Now let us know:

----- 256. How strong is your desire to attain that reward?

Response categories:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

0 = Indifferent; 1 = Least possible desire; 5 = 50% of the desire;  
10 = Strongest possible desire.

----- 257. Some times people may have negative preferences also you may prefer not attaining an outcome, compared with attaining it. Please let us know about your negative preferences also.

Response categories:

-10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0.

0 = Indifferent;  
-10 = Strongest possible desire for not attaining;  
-05 = 50% of the desire for not attaining;  
-01 = Least possible desire for not attaining.

----- 258. What is the probability according to you of getting that reward on the basis of your work effort, public performance.

Response categories:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

----- 259. What is the probability according to you of not getting that reward on the basis of your work effort, public performance.

Response categories:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

## Learning as a Value

People differ in things they want from life and work. The things desired by you may be different from the things desired by others. Please indicate as to what extent each of the matters listed below is important to you.

----- 260. Imaginative (daring, creative)

----- 261. Independent (self reliant, self sufficient).

- 262. Intellectual (Intelligent, reflective).
- 263. Logical (consistent, rational). It is important to me:
- 264. To be able to change my behavior as a result of experience.
- 265. To be able to learn on my job and go on learning.
- 266. To learn and exercise multiple skills of wider range.
- 267. To have information and perspective about the total work process and the result of my own action.
- 268. To be able to plan and implement.
- 269. To be able to contribute to maintain and expand my capabilities.

### **Personal Relations to Group Members**

Read the following items in tick only one.

270. My personal relations to group members in general are

- (a) very formal and distant
- (b) formal
- (c) neutral
- (d) friendly
- (e) very informal and close

271. My personal relations to group members are

- (a) almost entirely general life oriented, very little task oriented
- (b) rather general life oriented
- (c) 50/50
- (d) rather task oriented
- (e) very strictly task oriented.

Please read the following items and indicate if you agree with them. Please use the scale given below;

1% to 20% = 1, 21% to 40% = 2, 41% to 60% = 3, 61% to 80% = 4, 81% to 100% = 5

---- 272. If I need them, ---- of people of my group/ organization will definitely stand by me.

---- 273. I command great power in my group.

---- 274. I have made substantial contribution toward group members job securities as well as safety from work hazards.

---- 275. Group's cohesiveness.

---- 276. Group's sense of worth and esteem in the organization (and/or outside it).

---- 277. Group's recognition in the organization as well as outside it.

### **Dogmatism Scale (Close mindedness)**

#### **Belief Disbelief Dimension**

---- 278. The united States and Russia have about nothing in common.

---- 279. The highest form of government is democracy and the highest form of democracy is a government run by those who are most intelligent.

---- 280. Even though the freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

---- 281. It is only natural that a person would have much better acquaintance with ideas he believes in than the ideas he opposes.

#### **Central Peripheral Dimension**

---- 282. Man on his own is a helpless and miserable creature.

---- 283. Most people just don't give a "damn" for others.

---- 284. I'd like it if I could find some one who would tell me how to solve my personal problems.

---- 285. There is so much to be done and so little time to do.

---- 286. Once I get wound up in a heated discussion I just can't stop.

---- 287. In a heated discussion I generally become so much absorbed in what I am going to say that I forget to listen to what the others are saying.

---- 288. It is better to be a dead hero than to be a live coward.

---- 289. If given the chance I would do something of great benefit to the world.

Note. The above scale was not included in the final analysis because of low alpha coefficient during the analysis of pilot study data.

### **Facilitating Organizational Climate**

Please indicate as to what extent the following are true in the context of your work unit or organization.

---- 290. Superior emphasizes high standard of performance, and sets an example by working hard himself.

---- 291. Superior helps achieve goal attainment through such activities as scheduling, coordinating, planning, and providing resources.

---- 292. Superior encourages the development of close, mutually satisfying relationships with the groups.

---- 293. Superior plans and coordinates the group's activities so that maximum performance is possible.

---- 294. Individuals at this place believe that their organization performs an important functions, and offers unique opportunities for growth and development.

---- 295. Individuals at this place believe that their profession have a good image to outsiders, and provides opportunities for growth and advancement.

---- 296. Our management is willing to take a chance on good idea.

---- 297. Majority of people feel that their job make a meaningful contribution, and is important to the organization.

### **Motivation Management Practices Scale**

Please indicate as to what extent the following are true in the context of your work unit or organization.

---- 298. My organization sets up specific and challenging goal to it's employees.

---- 299. In my organization jobs are designed according to individual's capacity and ability.

---- 300. My organization supports wellness programs that focus on the employee's total physical and mental condition.

- 301. My organization provides overtime, and holiday premium pay, bonuses based on performance.
- 302. My organization also pay for the time not worked.
- 303. I have the right to choose my preferred work assignments, preferred office furnishings and the like.
- 304. In my organization decision making is participative.
- 305. There is a greater job freedom and discretion.
- 306. My organization give rewards to the employees on the basis of their effort and performance.
- 307. My organization over rewards those employees who put more effort and produce more.
- 308. My organization provide appropriate feedback to the employees.

### **Organization Norms Scale**

Please indicate as to what extent the following are true in the context of your work unit or organization.

- 309. My organization provide it's employees with explicit cues on how hard they should work, how to get the job done etc.
- 310. My organization has prescribed an appropriate dress attire.
- 311. Loyalty to organization is highly appreciated in my organization.
- 312. In my organization each department whether important or unimportant shares the same privileges.
- 313. My organization tries to satisfy it's employees fully.
- 314. Committed employees are given especial rewards.
- 315. My organization seeks to establish a healthy interpersonal relations among workers as well as employee and employer.
- 316. My organization encourages the expression of individual values.
- 317. My organization provide freedom of thought and action.
- 318. My organization is oriented towards participative decision making.

My organization holds

- 319. Autocratic values
- 320. Bureaucratic values
- 321. Democratic values.

### **Supportiveness and Hostility of the Environment Questionnaire**

Please indicate as to what extent the following are true in the context of your work unit or organization.

The organization in which I work, has very few rapid changes in the following areas.

- 322. Economy
- 323. Technology
- 324. Political climate
- 325. The environment of my organization is static.
- 326. The environment of my organization can be described as dynamic.

The following statements are true for my organization

- 327. de-regulation policies change quickly
- 328. price wars change quickly
- 329. new competitors change quickly
- 330. There are very few factors in the environment which influence my organization (for e.g. it is not too responsive to economic or political condition) .
- 331. The environment of my organization is very simple.
- 332. There are various factors which influence the operations of my organization ( for e.g. responding to different markets, national international, dealing with different types of competitors etc.).
- 333. The environment of my organization is quite hostile/complex.
- 334. I receive fairly complete information about environmental factors that influence my major business decisions.
- 335. My organization operate at uncertain level.

### Need Structure Questionnaire

You may find that there is more than one idea combined in each of the following items. Please responding to them even if only one of the ideas seems relevant in your case.

Scale: 1 to 5 respectively

---- 336. I like and try to be with people, social groups, social organizations, informal social activities, group activities in general, whenever I get opportunity. (E I)

---- 337. I usually let other people decide what to do, influence and control my actions, take charge of things, and to lead me. (W C)

---- 338. I try to be friendly and have close personal relationships with people. (E A)

---- 339. I like people to invite me to things, to join in their activities, and to participate in their discussions. (W I)

---- 340. I try to influence strongly other people's actions, to take charge of things, to have other people to do things the way I want them done, and to be the dominant person; when I am with people. (E C)

---- 341. I like people to act close, personal and friendly with me. (W A)

### Individual Effectiveness Criteria Questionnaire

People in organizations are known to have attained maturity as a result of the experience that they get on work. Such experiences, over a period of time, give an increase to the person on several dimensions relevant to the personal quality of life. Please tell us:

(A) the extent of increase that you feel as a result of past 5 years or so of your experience on job and

(B) the extent you expect to feel as a result of next 5 years of probable experience on this or similar job else where.

#### Response Categories

PAST	NEXT	ITEMS
------	------	-------

----	----	342 (356). Awareness of the self pattern of behavior on my own.
------	------	---

----	----	343 (357). Awareness of the self pattern of behavior as a result of feedback received from others during intense interactions.
------	------	--

- 344 (358). Awareness of dilemmas (in the context of perceived realities) of life.
- 345 (359). Capacity to work on those dilemmas of life.
- 346 (360). Capacity to control myself.
- 347 (361). Capacity for self direction.
- 348 (362). Confidence in ambiguous situations.
- 349 (363). Capacity to deal with apparently threatening situations involving issues, authority etc.
- 350 (364). Capacity to deal with personal conflicts (such as [a] whether to do this or that, or [b] whether to do it or not) quickly and without any remainder or residual uncertainty, guilt, or dissatisfaction.
- 351 (365). Ability to deal with internal conflicts (such as choosing between mutually incompatible thoughts, impulses, feelings) effectively.
- 352 (366). Capacity to act on the environment.
- 353 (367). Capacity of being able to initiate action wherever needed otherwise things would have moved.
- 354 (368). Discovery of my potentialities for greater effectiveness in the organization.
- 355 (369). Life goal realization.

Note. Item numbers outside the parentheses pertain to instruction A, while those inside the parentheses pertain to instruction B.

### **Individual Need fulfillment Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

- 370. The feeling of security in my management position.
- 371. The opportunity in my management position, to give help to other people.
- 372. The opportunity to develop close friendships in my management position.



----- 373. The feeling of self esteem a persons get from being in my management position.

----- 374. The prestige of my management position inside the company (i.e. the regard received from others in the company).

----- 375. The prestige of my management position outside the company(i.e. the regards received from others not in the company).

----- 376. The authority connected with my management position.

----- 377. The opportunity for independent thought and action in my management position.

----- 378. The opportunity in my management position, for participation in the setting of the goal.

----- 379. The opportunity in my management position, for participation in the determination of methods and procedures.

Most people prefer to be successful in their chosen sphere of life. However, the concept of success is likely to vary from person to person, e g., one person may feel to be successful if (s)he has been able to amass substantial wealth but the other person may prefer to have substantial amount of mental peace(in order to have feeling of success). Please respond to the following items and let us know :

(a). to what extent the attainment of each of them would give you the feeling and satisfaction of having attained success in your life as a whole.and,

(b). to what extent the followings are actually available to you (or you have actually attained them).Of course all of the followings would seem to be desirable and you may feel that you would have a feeling of success of if you have all of them together in their highest magnitudes. But please try to differentiate among them in terms of their relative importance to you and respond accordingly.

----- 380 (396). Excellent physical health.

----- 381 (397). High education.

----- 382 (398). Accomplishing in life the goals I determined for myself.

----- 383 (399). Have lot of my own people around (people from my own caste, geographical region, religious affiliation, or those who speak the same language as myself etc.)

----- 384 (400). Do some good to my ``own" people.

----- 385 (401). Very high recognition that I get due to my work.

---- 386 (402). Excellent Boss.

---- 387 (403). Excellent physical work conditions.

---- 388 (404). A number of promotions in job.

---- 389 (405). A grand house or flat to live in.

---- 390 (406). Attainment of the highest standards of living; the things I can buy and do.

---- 391 (407). Emerge(or make myself)as a leader of a certain class of people on job.

---- 392 (408). Get the things done the way I want them to be done.

---- 393 (409). Employment in highly prestigious company.

---- 394 (410). Permanent, stable job.

---- 395 (411). Opportunity to contribute to the progress of my country.

Note. Item numbers outside the parentheses pertain to instruction A, while those inside the parentheses pertain to instruction B.

### **Life Goal Realization Questionnaire**

So far you have dealt with preferences of general nature, however most people seem to have possessed, some cherished goal that they crave to achieve in life. Please mention in specific terms (in descending order of importance) your personal life goals and their relative extent of achievement. Please try to refrain from global statements like "happiness" and be specific.

Specific goal I wanted to be	Extent of realization				
412.	1	2	3	4	5
413.	1	2	3	4	5
414.	1	2	3	4	5
415.	1	2	3	4	5
416.	1	2	3	4	5

Note. The above scale was not included in the final analysis because of low alpha coefficient during the analysis of pilot study data.

### Need Questionnaire

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 417. At this time point in my life I think that I have been able to satisfy basic human needs to sustain life itself such as food, clothing, shelter; to the degree needed for the sufficient operation of the body.

---- 418. I have been able to live a life which is by enlarge free of the fear of physical danger and deprivation of the basic physiological needs.

---- 419. The degree of belongingness and acceptance of mine by various groups (including extended family, work, professional, recreational, political and societal groups or parties) is satisfactory.

---- 420. I am more than just an ordinary member of my group. I receive esteem recognition, and respect from others.

---- 421. I have become what I could have become ,I must have become in this life of mine.I have been able to actualize my potentials to the maximum extent. I find myself "self actualized and self fulfilled".

### Group Task Motivation Questionnaire

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 422. Group members are highly motivated to work for the goal of the group.

---- 423. There is a division of work and/or work techniques among the group members.

---- 424. The group members show a high degree of participation in setting of the new group goals.

---- 425. All the relevant information is usually presented in a discussion in which the group members take part whenever a new group goal is to be served.

---- 426. The group members consider it right and proper to engage in the decision making process.

---- 427. In general the group members feel fairly satisfied as a result of participation in the group activities.

---- 428. On most days on job how often does time seem to drag for your group?

- About half the day or more = 1
- About one third of the day = 2
- About one-quarter of the day = 3
- About one eighth of the day = 4
- Time never seems to drag = 5

---- 429. What would you say, your work group work harder, less hard, or about the same as other groups doing your type of work at your organization.

- Much harder than most others = 5
- A little harder than most others = 4
- About the same as most others = 3
- A little hard than most others = 2
- Much less hard than most others = 1

### **Role Identity Questionnaire**

Please read the items and indicate as to what extent they are relevant or true in your personal context of job / work. Please respond on a five point scale ranging from "To no extent = 1" to "To a very great extent = 5".

---- 430. The group members identify themselves with their role in the group.

---- 431. The attitude of the group members is consistent with the given role in the group (for e.g. a manager has a "managerial" attitude rather than attitude appropriate, say, of a sales person or a union leader).

---- 432. The group members have ability to shift from their roles rapidly when there is a situation demand to change the role.

---- 433. The behavior of the group member is consistent with given role in the group.

### **Work Related Expectancies (effort performance expectancy)**

To what extent the statements written below are applicable in your group / group members, context.

---- 434. Working as hard as my work group can, leads to high quality work.

---- 435. Getting the job done on time leads to the experience of accomplishment to my work group.

---- 436. Working as hard as my work group can leads to high quantity of work.

### Group Behavior Norm Questionnaire

To what extent the statements written below are applicable in your group / group members, context.

#### Responses

Always; often; occasionally; seldom; never, scored 5 to 1 respectively.

- 437. Group members try to publicize the activities of their group.
- 438. Group members seek opportunity to represent the group at outside meetings.
- 439. Group members try their best to handle the complex problems efficiently.
- 440. Group can reduce a madhouse to system and order.
- 441. Group members try to accept defeat in stride, and make renewed efforts to win.
- 442. Group tries to delay action until the proper time occurs.
- 443. If need be, group persuade (others) that its ideas are to others, advantage.
- 444. Group tries to inspire enthusiasm among the members for a project.
- 445. Group tries to maintain definite standard of performance.
- 446. Group asks others to follow standard rules and regulations.
- 447. Group tries to use its own judgment in solving problems.
- 448. Group members try to do their work they think best.
- 449. Group backs down when it ought to stand firm.
- 450. Group tries to take full charge when emergencies arise.
- 451. Group members try to be friendly and approachable to each other as to outsiders.
- 452. Group members try to put suggestions made by each other into operation.
- 453. Group members try to be ahead of competing groups.
- 454. Group tries to keep work moving at a rapid pace.

- 455. Group tries to be able to predict what is coming next.
- 456. Group members try to settle conflict when it occur among themselves.
- 457. Group anticipate problems and tries to plan for them.
- 458. Group tries to keep members working together as a team.
- 459. Group members try to work hard so that whatever rewards they get are well earned, and in a deserved manner.
- 460. Group members try to get their superiors act for the welfare of the group.

### **Performance Reward Expectancy Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

- 461. Handling a high quantity of work increases my group's chance for promotion.
- 462. Getting the job done on time increases my group's chance for promotion.
- 463. Getting the work done on time is rewarded with higher pay here.
- 464. The other people my group work with respect them more when my group get the job done on time.
- 465. Completing the job on time leads to more influence with supervisors.
- 466. My group's supervisor gives us more recognition when we produce a high quantity of work.
- 467. Producing high quantity of work leads to job security here.
- 468. The other people my group work with respect it more when the group's work is of high quality.
- 469. Producing high quality work leads to job security.

### **Quality Assurance Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

- 470. My work group firmly believes in the maintenance of high quality standards in whatever it does.

---- 471. The concern for quality is not reflected in just whatever we produce or do. For the group it means ongoing commitment to every one involved, staff, supplier, government and ultimately even to the final consumer.

---- 472. The quality of product and/or services turned out by our group is comparable to the best industry in our class.

---- 473. My group is not bad in terms of production quantity but every one in here is convinced that it is not quantity but the quality that will earn the future.

---- 474. The consumer, supplier, producer of anybody else may be dissatisfied at times with the end product but the part of work accomplished by our group can rarely be faulted.

---- 475. Our group is alert and active in seeking the accurate feedback on its performance quality on a continuous basis.

### **Span of Control Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

---- 476. What numbers of subordinates report to a single supervisor?

---- 477. How many workers report to you directly or work under you as subordinates?

### **Task Characteristic Questionnaire**

Most task can be viewed as following into one of three different categories, or they may have characteristics of different categories at the same time. Please rate your group's task in the following three categories.

Scale:

1% to 20%	= 1
21% to 40%	= 2
41% to 60%	= 3
61% to 80%	= 4
81% to 100%	= 5

#### **Category 1 (A)**

---- 478. Most of our group task are one's in which the contributions of each member are combined in to a single group product.

#### **Category 2 (C)**

---- 479. Most of our group task are one's in which the success or failure of the group's final product or goal is determined by its "weakest link"- by the poorest

performing member. (to clarify, every group task requires a linkage between the performing members. The extent to which group as a whole can sustain is dependent upon the extent to which the most weak link can sustain. the weakest link gives way, the whole group's performance will crumble down).

### Category 3 (D)

---- 480. Most of our group task are one's in which the group's product or success is determined by some single member who is the best or most competent person.(to clarify, if the group can have only one solution or approach at a time, it's success will reflect the quality of the best idea or solution proposed by any of it's members).

### Stratification Questionnaire

Every organization has it's quota of tangible valuable rewards that may be available to some of it's employees as a compensation for their outstanding performance. However, some organization may not be distributing rewards equally across hierarchical levels.

Please let us know the extent of tangible, valuable rewards available at various different hierarchical levels.

---- 481. Top/upper

---- 482. Upper middle

---- 483. Lower middle

---- 484. Lower

---- 485. Bottom.

### Task Structure Questionnaire

To what extent the statements written below are applicable in your group / group members, context.

---- 486. To what extent the degree of correctness of the decision can be demonstrated with respect to group task.

---- 487. To what extent the requirement of the task are clearly stated.

---- 488. To what extent the goal can be reached by a variety of procedures.

---- 489. To which degree there is more than one correct solution.



Taking every thing into consideration that you believe to be important to the goals of your work group how successful it is in accomplishing these goals. Rate your work group performance on the following dimensions listed below. Please use the following rating scale.

Poor = 1; Rather poor = 2; Fair = 3; Good = 4; Outstanding = 5.

---- 490. Overall performance

---- 491. Physical care

---- 492. Psychological and emotional care

---- 493. Group operations.

### Group Learning Questionnaire

Read the items written below and indicate as to what extent they are true in case of your group members.

TO what extent :

---- 494. The group members (G.M.) actively engage themselves in the processes of detecting errors as a response to changes in the internal and the external environment of the group.

---- 495. The G.M. carry out inquiries which yield discoveries, inventions and evaluations pertaining to group's strategies and assumptions.

---- 496. The G.M. correct errors so as to maintain the central features of the group's theory-in-use (strategies, and established ways of functioning).

---- 497. The group's strategies and assumptions are modified within the range set by organizational norms for performance.

---- 498. The changes/modifications are regularized so that they are unaffected by some individual's departure.

---- 499. The new members learn these new features of group's theory of action as part of their socialization to the organization and in the group.

The G.M. carry out those sorts of group related inquiries which resolve incompatible group norms;

---- 500. by setting new priorities and weighting of norms,

---- 501. by restructuring the norms themselves together with associated strategies and assumptions.

---- 502. The G.M. while carrying out inquiry into internal and external environment of the organization also inquire into previous episodes of error detection and correction, it's failure or success.

### **Goal Setting Questionnaire**

To what extent do you agree with the following statements.

---- 503. My group members set their own goals.

---- 504. My group members believe that specific and difficult goals lead to higher performance.

---- 505. My group believe that the goals tell an employee what needs to be done, and how much effort will need to be expended.

---- 506. Easier goals are more likely to be accepted by my group members than the difficult ones.

---- 507. My group likes to have challenging goals because challenging goals not only help the group members perform better, but can also be an important means of improving career opportunities of the group members.

### **Informal Role Relation Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

508. In free time at work my work group would rather talk about

---- what ever comes up (U)

---- things they are working on in the company (J)

---- things that are going on in sports and politics. (N)

509. My group members prefer to have as friends

---- people they get to know in their work (J)

---- people who share their leisure interests (N)

---- different people according to what they like (U)

510. If my group members received a promotion that meant moving to another city

---- their friendship wouldn't make any difference in their moving.(U)

---- they would most dislike leaving their friends at the office (J).

----- they would most dislike leaving their other friends. (N)

511. The people, my group can count on most when it need help are

----- the friends at work (J)

----- the friends in the community (N)

----- almost any of their friends (U)

512. If group members needed a ready cash within a few hours for an emergency on a Sunday and had to borrow it, they would probably turn to

----- people they know in the community (N)

----- people they know in the company (J)

----- any one who would lend it to them(U)

513. My group members would rather take vacation with

----- some friends from work (J)

----- their family (N)

----- by themselves (U)

514. My group members most like

----- talking with friends about things like that are happening (N)

----- talking about whatever their friends want to talk about (U)

----- talking with their friends about their work and what is happening in the company (J)

### **Interpersonal Trust At Work Questionnaire**

To what extent do you agree with the following statements:

----- 515. If my group members get into difficulties at work they know their work mates would try and help them out.

----- 516. My group members can trust the people they work with to lend them a hand if they need it.

- 517. My group members feel quite confident that the firm will always try to treat them fairly.
- 518. Our management would be quite prepared to gain advantage by deceiving workers. (R)
- 519. My group members have full confidence in each other's skills.
- 520. Most of my fellow workers would get on with the job even if supervisors were not around.
- 521. Our firm has a poor future unless it can attract better managers. (R)
- 522. Management can be trusted to make sensible decisions for the firm's future.
- 523. Management at work seems to do an efficient job.

### **Management Practices Questionnaire: Reinforcement**

To what extent the following statements are true in the context of your management practices. Please respond according to the scale given below;

Almost never	= 1
Seldom	= 2
Sometimes	= 3
Often	= 4
Almost always	= 5

How many times management:

- 524. Provides especial rewards to employees when they show an effective performance.
- 525. Praises employees for their efforts.
- 526. Continually provides negative sanctions to the employees until they begin performing a job correctly.
- 527. Gives negative sanctions (punishment, chiding, reprimands etc.) to the employees until they start performing the way management wants them to.

### **Friendship Opportunity Questionnaire**

Management provides opportunities:

- 528. To meet individuals whom employees would like to develop friendship with.

----- 529. To talk informally with other employees while at work.

----- 530. To develop friendship with co workers.

----- 531. To get to know other people on job.

Management provides opportunities for growth in:

----- 532. Individual creativity.

----- 533. Learning.

----- 534. Training.

----- 535. Acquisition of inputs for overall growth.

### **Social Facilitation Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

----- 536. Management prefers those who work in a group.

----- 537. Management people share the stress and anxieties of the employees.

----- 538. If conflict occurs between employees management is one who try to resolve it quickly.

----- 539. Management gives especial recognition/awards to those employees who put efforts for harmonious working climate.

----- 540. Management provides facility for in-house training programs, free tuition for higher education, or a firm policy of promotion from within.

----- 541. Increased provision for security.

----- 542. New forms of union management cooperation and increased involvement of unions in bargaining for quality of working life programs.

### **Feedback from Management Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

----- 543. Management let employees know how well they are doing their job.

----- 544. Management encourages the employees to get feedback on their performance.

---- 545. Management provides opportunity to find out how well employees are doing on their job.

---- 546. Employees get the feeling from management whether they are performing their job well or poorly.

---- 547. The job assigned by management, itself gives clues how employees are working.

---- 548. Management encourages the group members to provide performance feedback to each other.

### **Group Growth Consideration Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

Management provides opportunity;

---- 549. For independent thought and action.

---- 550. To know whether an employee is performing his/her job poorly or well.

---- 551. To do a number of different things.

---- 552. To do a job from beginning to end (i.e. the chance to do a whole job).

---- 553. For the freedom to do pretty much the same that group members/employees want on their job.

---- 554. For the feeling of worth while accomplishment in job.

---- 555. The opportunity in job, for participation in the determination of methods, procedures, and goals.

---- 556. To learn new things from the work .

---- 557. TO be creative and imaginative in work.

### **Quality Concern Questionnaire**

To what extent would you say that your management actively work towards the following within your work unit.

---- 558. Team building.

---- 559. Link all people (linking all levels in the company).

---- 560. Self development.

- 561. Mutual development.
- 562. Improvement in quality.
- 563. Waste reduction.
- 564. Improvement in productivity.

### **Management Support Questionnaire**

To what extent the statements written below are applicable in the context of your organization.

- 565. It is easy to get support from my management in my organization on genuine issues.
- 566. Management pays attention to the 'say' of its employees.
- 567. Management is always willing to sort out the problems of employees/groups.
- 568. Management supports the initiative taking behavior of the employees.
- 569. Management is willing to support the decision taken by groups/employees.
- 570. Management supports the team work within and between groups.
- 571. Management provides counseling to the employees when their fear and anxiety is high.
- 572. Due recognition is given to the efforts of the employees by management.
- 573. Employees' efforts are valued and supported by the management.
- 574. The management responds favorably to the group's requests for action.

### **Transformational Leadership Questionnaire**

To what extent the following characteristics explains the working style/leadership style of your boss or leader.

- 575. Demonstrate an empowering attitude i.e. makes feel people that they are worth while and important for the organization.
- 576. Is clear about the mission, purpose and goal of the organization.
- 577. Is a good team builder, capable of generating positive feeling among the members.

- 578. Has care and concern for the individuals' work as well as their personal problems.
- 579. Evokes a sense of trust and confidence by his behavior.
- 580. Gives people complete freedom to decide, evolve plans and strategies at work.
- 581. Very particular about the speed and quality of work done.
- 582. Values and appreciates good work.
- 583. Gives adequate responsibility for job performance.
- 584. Is intellectually of high caliber.
- 585. Encourages the total development and growth of people when needed.
- 586. Provides clear instruction on what to do and what not to do.
- 587. Protects and supports when people needed.
- 588. Technically very sound and knowledgeable.
- 589. Consults relevant people before taking decisions concerning them and their departments.
- 590. Considers genuine mistakes at work to be part of the learning process, but does not tolerate repeated mistakes due to carelessness.
- 591. Is totally logical and data based and does not believe in relating on the level of feelings and emotions.
- 592. Generally adheres to the organizational rules, procedures and regulations.
- 593. Treats organizational members like his brothers.
- 594. Believes in consensus building before taking a decision.



## Your Organization

Let us try to understand the way your organization functions. Please judge the following statements about your organization are true or false. Please choose one of the following numbers and write it on the answer sheet :

Scale:

Almost never	= 1
Seldom	= 2
Sometimes	= 3
Quite often	= 4
Always	= 5

- 595. C The organization provides all necessary facilities for work.
- 596. SN. It is not easy to take work from the subordinate.
- 597. PN One can work at leisurely pace in this organization.
- 598. C The organization provides latest tools and equipments for work.
- 599.P There is so much of work pressure that the executives hardly have time to think of any thing else.
- 600. NN Work is not considered to be important here.
- 601. T Plant has the latest machines and equipments.
- 602. RN Politics, not hard work , pays here.
- 603. TN Most of the machines are old and require replacement.
- 604. R Ability and expertise are duly recognized in the organization.
- 605. CN The environment is polluted and bad.
- 606. N There is a tradition of hard work in this organization.
- 607. S The superiors demand that the targets are achieved.
- 608. TN The plant and machines are poorly maintained.
- 609. CN The working conditions do not provide necessary safety and health measures.
- 610. S Subordinate comply with the directions of the superior.
- 611. RN Personal connections are more rewarding than work.

- 612. N Every body works hard.
- 613. T The plant and the machines are timely repaired and well maintained.
- 614. SN The seniors do not care if their subordinates do not work.
- 615. PN There is not enough work for every body.
- 616. NN No body cares for work.
- 617. P Work load is very heavy.
- 618. R Hard work is amply rewarded.

### Equity Questionnaire

It has been observed that most of us evaluate our lives in terms of overall costs that we have incurred and overall achievements that we have made. It has also been observed that this evaluation is usually been made vis-a vis people who we think are comparable to ourselves such as friends of our early days, colleagues who started their career with us etc. .

Please think of a person who you consider as the most closely comparable person to yourself in terms of the inputs that you have made (such as commonness of the educational level, experience, training, hardships and other costs).

We would like to know how much under rewarded, equally rewarded or over rewarded do you find yourself in comparison to those persons.

Please note that the despite the basic comparability/commonness in terms of inputs between you and the other persons it is possible that either you or they have invested differential amount of things like ,time, money, energy etc. Similarly both of you might have made differential progress in life on various dimensions.

Please consider the following statements and let us know your and the comparable persons' costs and rewards as you perceive them on a five point scale.

- 619. Your investments.
- 620. Other persons' investments.
- 621. Other persons' rewards.
- 622. Your rewards.

	Under rewarded	Over rewarded	Equally rewarded
---- 623. My principal position inside my organization (in my work sphere).	----	----	----
---- 624. My position outside my organization (profession in general) compare to my own position inside the organization.	----	----	----
---- 625. My overall life in general	----	----	----
---- 626. My other major activities of interest inside my organization (other than my work).	----	----	----
---- 627. My major activities of interest outside my organization (other than work).	----	----	----

Note. The above scale was not included in the final analysis because of low alpha coefficient during the analysis of pilot study data.

### **Equitable Reward Systems Questionnaire**

You have just indicated the rewards and costs in your life. Now indicate the availability of equity of rewards of rewards in your organization in general. To what extent:

- 628. Most people get rewarded in proportion to their inputs.
- 629. There are specific criteria laid down for disbursement of rewards and promotion.
- 630. No one really knows who gets the rewards and on what basis.
- 631. Although they call it flexibility but the reward system in an overall sense appears to be arbitrary.
- 632. The reward that people get out here in proportion to their contribution is comparable to what is available to some of the best organizations in the industry.

### Locus of Control Questionnaire

Please also tell us to what extent would you hold the following factors responsible for your being (a) under rewarded (b) over rewarded.

	Work sphere		Life in general	
	under rewarded	over rewarded	under rewarded	over rewarded
633 (641). My luck/fate or providence.	-----	-----	-----	-----
634 (642). Situational structures and coincidences.	-----	-----	-----	-----
635 (643). Significant & powerful others	-----	-----	-----	-----
636 (644). My ability.	-----	-----	-----	-----
637 (645). My hard work (or lack of it)	-----	-----	-----	-----
638 (646). Learning/skill (or lack of it)	-----	-----	-----	-----
639 (647). Quality of my training	-----	-----	-----	-----
640 (648). My socio-economic background.	-----	-----	-----	-----

Note. Item numbers outside the parentheses pertain to the aspect of work sphere, while those inside the parentheses pertain to the aspect of life in general.

### Quality of Work Life Questionnaire

To what extent the following statements hold true in the context of your organization's work life.

---- 649. The way that task are combined to form complete jobs is quite satisfactory.

---- 650. The employees really like some specific job in their work, they will definitely be allowed to continue on it (that they are not likely to be forcibly transferred to some other job).

----- 651. There is a high emphasis on the elimination of time and motion waste(completing job in the most efficient way).

----- 652. The workers are periodically shifted from one tasks to another, (generally at the same level and the jobs with similar skill requirements).

----- 653. The number and variety of tasks performed by employees are sufficiently large.

The employees control, to a large extent the

----- 654. Planning

----- 655. Execution

----- 656. Evaluation of their work.

----- 657. They get reasonably fast and accurate feedback on their performance.

----- 658. The social surrounding and the group atmosphere in which the employees work are pleasant.

----- 659. The goals to be achieved in employees' work are hard and specific.

----- 660. Employees are allowed to participate in decisions that would affect them.

----- 661. Groups are free to determine how the goals assigned to them, are to be accomplished and how tasks are to be allocated.

----- 662. The general perception of the employees is that they are safe, relatively well satisfied, and able to grow and develop as human beings.

### **Control of the Surrounding Environment Questionnaire**

To what extent your organization/system puts premium on:

----- 663. Producing a disciplined, unified system that can more quickly meet environmental threats or changes.

----- 664. Incorporation of it's milieu into itself(i.e. extension of organizational boundaries, e.g. by purchasing the source of it's raw materials, building a company town, taking over competing firms; or influencing clients and customers through expenditure on information and advertising).

----- 665. Seeking to build support in unorganized public and in organized groups through extensive public relations campaigns against some future crisis.

----- 666. Gearing into (establishing functional linkages with) larger system.

---- 667. Adhering to social values and legal norms to secure legitimacy for its activities and buttress its position.

---- 668. Supporting laws and governmental regulations that would keep off multinational or unmanageable powerful competitors.

---- 669. Contributing to major political parties in the hope that the organization will be dealt with kindly by whichever party is in power.

To what extent the organization is capable of adapting to changing conditions in terms of the following;

---- 670. Its suppliers.

---- 671. Its customers.

---- 672. Its competitors.

---- 673. Its employees.

What is the extent of organization's ability to innovate in terms of the following:

---- 674. New products.

---- 675. New services.

---- 676. New technologies.

---- 677. New managerial systems.

What has been the extent of organization's actual innovation in terms of the following, during current financial year/past three years/past five years:

---- 678. New products .

---- 679. New services.

---- 680. New technologies.

---- 681. New managerial systems.

---- 682. To what extent the organization is efficient in creating products and services of maximum value at minimum cost or expense taking the overall product value by cost ratio.

Given that there are 295 (365 minus 52 Sundays, minus 17 gazetted central holiday per annum ) work days in a year, approximately how many days do you \_\_\_\_\_(please try to ensure that the total days up to 295)

---- 683. Report on duty before time.

- 684. On the dot (on time).
- 685. Late.
- 686. Go on unplanned leave (such as casual leave etc.).
- 687. Planned leave.

### **Team Building Questionnaire**

How effective your organization is at:

- 688. Generating high interaction among group members.
- 689. Increasing trust and openness.
- 690. Setting structured goals for work teams.
- 691. Improving the process to make work team more effective.

### **Components of Organizational Effectiveness Questionnaire**

- 692. Total gross profit of your organization.
- 693. Profits as a percentage of total sale.
- 694. Amount of money paid to each shareholder in the organization.
- 695. Growth in profits.
- 696. Growth in number of products and services offered.
- 697. Growth into new locations.
- 698. Growth in revenues.

How much worth of the following have been acquired in the current financial year by the organization:

- 699. Capital (in terms of rupees).

Raw material,

- 700. Quantity

- 701. Form

- 702. Money

- 703. People.
- 704. Position.
- 705. Number.
- 706. New ideas.

What is the extent of employees'

- 707. Satisfaction/commitment
- 708. Absenteeism

### **Formalization Questionnaire**

The questions below consider whether documents are available irrespective of whether they are actually used. A document is at a minimum a single piece of paper with printed, typed or otherwise reproduced content - not handwritten.

709. Who is given a copy of the organization chart ? (Check one of the alternatives below.)

- A) No one
- B) Head of the organizational unit only
- C) Head of organizational unit plus one other supervisory employee
- D) Head of organizational unit plus most or all other employees
- E) All employees in organizational units

710. What percentage of non supervisory employees are given written operating instructions ? (Check one.)

- A) 1 to 20%
- B) 21 to 40%
- C) 41 to 60%
- D) 61 to 80%
- E) 81 to 100%



Are written terms of reference or job descriptions given to the following ? (Check your answer.)

711. Head of the organization unit : Yes No

712. Supervisory employees : Yes No

713. Non supervisory employees : Yes No

714. Is a manual of rules and regulation available ? (Check one.)

----- Yes ----- No

715. Is a written statement of policies available ? (Check one.)

----- Yes ----- No

716. Is a written work flow schedule available ? (Check one.)

----- Yes ----- No

717. What percentage of employees in your organizational unit turn in a written report on a regular basis ? (Check your answer.)

----- A) 1 to 20%

----- B) 21 to 40%

----- C) 41 to 60%

----- D) 61 to 80%

----- E) 81 to 100%

### **Bureaucratization Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

719. To what extent is there a division of labor in your work group ?

No extent	Little extent	Some extent	Great extent	Very great extent
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720. To what extent is there a provision of the incumbent with the necessary authority ?

No extent	Little extent	Some extent	Great extent	Very great extent
--------------	------------------	----------------	-----------------	----------------------

721. To what extent the work group recognizes the importance of having the authority and power to carry out assigned duties?

No	Little	Some	Great	Very great
extent	extent	extent	extent	extent

722. To what extent the work group follows the principle of hierarchy ; i.e., a member of lower hierarchy is under the control and supervision of a higher one "with in the group'.

No	Little	Some	Great	Very great
extent	extent	extent	extent	extent

723. To what extent the work group have prescribed a set of formal rules to ensure uniformity and coordination of effort?

No	Little	Some	Great	Very great
extent	extent	extent	extent	extent

724. To what extent the group members have impersonal and formal relationships with each other ?

No	Little	Some	Great	Very great
extent	extent	extent	extent	extent

### **Nature of Group Questionnaire**

To what extent the following definitions holds true for the description of your group ?

---- 725. Formal Group : A designated work group defined by the organization's structure.

---- 726. Informal Group : A group that is neither formally structured nor organizationally determined ; which has formed rather in response to the need for social contact.

---- 727. Command Group : A group that is determined by organization chart. It is composed of subordinates who report directly to a given manager.

---- 728. Task Group : A group in which members working together strive to complete a job task.

---- 729. Interest Group : A group in which members working together strive to attain a specific objective with which each is concerned.

---- 730. Friendship Group : The group is a group because the members are brought together as they share one or more common characteristics.

---- 731. Primary Group : The group is a group because it is small and it has a feeling of comradeship, loyalty and a common sense of values among its members.

---- 732. Coalitions : It is an interacting group of individuals, deliberately constructed by the members for a specific purpose. Independent of formal organization's structure, it lacks formal internal structure, issue oriented to advance the purpose of members.

### **Group Size Questionnaire**

733. Please indicate whether your group size is :

- A) Small (Number of members : 2 to 4)
- B) Medium (Number of members : 5 to 11)
- C) Large (Number of members : more than 11)

733. What is the total number of your group members ?

### **Group Behavior Norm Questionnaire**

---- 734. To what extent does your group regulate the amount of participation in group meetings ?

---- 735. To what extent the group members who sit back and say nothing, are accepted ?

---- 736. To what extent the group members who monopolize the conversation, are accepted ?

---- 737. To what extent the person who is completely humorless, receives acceptance from the group ?

---- 738. To what extent the person who is completely flip, receives acceptance from the group ?

### **Group Performance Norm Questionnaire**

---- 739. To what extent the person who produces more number of pieces of work than others, is encouraged by the group?

---- 740. To what extent a low producer is accepted by his/her group ?

---- 741. To what extent the group develops the performance norms to regulate how much a typical worker should produce on the job?

---- 742. To what extent the group frequently develops performance norms about the minimum amount of time which must be worked by a typical group member ?

## Work Schedule Questionnaire

Please read the following statements and answer either in "Yes or No".

---- 743. The work week of my work group/organization is six day week, with employees working six hour a day.

Yes / No

---- 744. The work week of my work group/organization is five days a week, with employees working eight hours a day.

Yes / No

---- 745. The work week of my work group/organization is four days a week, with employees working ten hours a day.

Yes / No

---- 746. The work schedule allow members more leisure time.

Yes / No

---- 747. The work schedule allow members to travel to and from work at non rush hour times.

Yes / No

---- 748. The work schedule is flexible.

Yes / No

---- 749. Employees can take assigned jobs to their homes.

Yes / No

---- 750. There are Frequent rest pauses in the work schedule.

Yes / No

---- 751. How much flexible time does the organization/group allow i.e., employees work during a common core time period each day but have discretion in forming their total work day from a flexible set of hours outside the core.

0 - 1 Hr., 1.1 - 2 Hrs., 2.1 - 3 Hrs., 3.1 - 4 Hrs., >4 Hrs.

---- 752. How many days a week you have to work ?

— 753. How many hours a day you have to work ?

— 754. Do you have to do shift duties ?

— 755. Typically how many work hours per day are actually required in order to complete your assigned duties ?

### **Group Growth Level Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

— 756. The level of personal growth and development of group members as improved in the job.

— 757. The group members get the feeling of worthwhile accomplishment from doing their job.

— 758. The group members can exercise independent thought & action in their job.

— 759. The group members get the feeling of challenge in their job.

### **Special Reward Questionnaire (Recognition)**

— 760. My work group has been given special rewards for its effort in the organization.

— 761. My work group has a special recognition in the organization.

— 762. My work group is well known even to other organizations which are associated with my organization.

### **Overall Job Satisfaction Questionnaire**

To what extent the statements written below are applicable in your group / group members, context.

— 763. All in all, my work group is satisfied with their job.

— 764. In general, my work group does not like its job.

— 765. In general, my work group likes working here.

### Task Difficulty Questionnaire

To what extent the statements written below are applicable in your group / group members. context.

— 766. To what extent is there a CLEARLY KNOWN WAY to do the major type of work you normally encounter /

No	Little	Some	Great	Very Great
Extent	Extent	Extent	Extent	Extent

— 767. What percent of the time are you GENERALLY SURE OF WHAT the OUTCOME of your work effort will be ?

40% or less	41-60%	61-75%	76-90%	91% or more
-------------	--------	--------	--------	-------------

— 768. In the past three months, How often did difficult problems arise in your work for which there were no immediate or apparent solutions ?

Once a week or less	2-4 times a week	Once a day	2-4 times a day	5 times or more a day
------------------------	---------------------	---------------	--------------------	--------------------------

— 769. About how much time did you spend solving these WORK PROBLEMS ?

less than 1 hr/week	1-4 hr/ week	1 hour/ day	2-3 hrs/ day	4 hrs or more /day
------------------------	-----------------	----------------	-----------------	-----------------------

— 770. How often can you solve these types of specific work problems BY GOING TO SOMEONE in this organization for an answer ?

Very seldom	Sometimes	50% of time	Quite often	Most of the time
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### Recognition of Work Group Questionnaire

Please indicate to what extent your work group has achieved special recognition for its work / performance in terms of the following.

Please use the scale given below :

Not at all recognized	= 1
Recognized to a little extent	= 2
Recognized to some extent	= 3
Recognized to a good extent	= 4
Very well recognized	= 5

— 771. Verbal Praise.

- 772. Written Certificate / Citations etc.
- 773. Awards.
- 774. Patents.
- 775. Monetary Rewards.
- 776. General acclaim etc.

### **Group Goal Accomplishment Questionnaire**

Please read the following items and indicate to what extent they are relevant or true in context of your work group.

True to almost no extent	= 1
True to a small extent	= 2
True to some extent	= 3
True to a great extent	= 4
True to a very great extent	= 5

My work group works toward accomplishment of :

- 777. The immediate goals of the group/organization.
- 778. The distant goals of the group/organization.
- 779. The manifest goals of the group/organization.
- 780. The latent goals (that are real but not publicized or known to every one) of the group/organization.

### **Managerial Role Rating Questionnaire**

The following items concerns the activities you perform as a manager. This survey is to identify the relative importance of various managerial activities. Enter the appropriate number for each activity based on 5 point scale. The importance scale ranges from 1, indicating the least important, to 5, indicating the most important.

#### **Managerial Activities**

- 781. Figurehead : Activities involving ceremonial, social, or legal duties (dinners, luncheons, signing contracts, civic affairs, etc.)
- 782. Leader : Motivating, guiding and developing subordinates (staffing, training, and rewarding employees).
- 783. Liaison : Maintaining contacts with people outside of your chain of command (staff meetings, lunches with peers, customers, and suppliers).

- 784. Monitor : Seeking and obtaining information through verbal and written communication media (meetings, memos, reports, telephone calls).
- 785. Disseminator : Transmitting information to subordinates (meetings, memos, briefing and calling them on the phone).
- 786. Spokes Person : Transmitting information to people outside the work group (speaking to groups, reporting to outsiders and briefing to stockholders).
- 787. Entrepreneur : Searching for business opportunities and planning new activities for performance improvement (new venture, new product and new planning).
- 788. Disturbance Handler : Taking corrective actions on problems or pressures (labor strikes, material shortages and personal conflict resolutions).
- 789. Resource Allocator : Deciding which organizational units get what and how much resource (budgeting, capital expenditure decisions and personnel assignments).
- 790. Negotiator : Negotiating with employees, customers, suppliers and unions (sales negotiations, labor contract negotiations and salary negotiations).

### Group Cohesiveness Questionnaire

Please place a check mark in the most appropriate space below for each of the nine pairs of adjectives best describing your feeling about your fellow workers most of the time.

#### My Fellow Workers

	Extre mely	To some extent	Neither one or other	To some extent	Extre mely	
791. Cooperative						Uncooperative
792. Pleasant						Unpleasant
793. Quarrelsome						Congenial
794. Selfish						Unselfish
795. Belligerent						Peaceful
796. Vigorous						Feeble
797. Efficient						Inefficient



----- 812. The degree to which an individual believes that his profession has a good image to outsiders and provides opportunities for growth and advancement.

### Role Relationship Questionnaire

Read the following questionnaire carefully and indicate as to what extent "You evaluate others" and also indicate how "Others evaluate you" in the given aspects of behavior.

Please use the same five point scale. For example, you can use the scale while rating "Liking" as:

- Liking to no extent = 1
- Liking to a small extent = 2
- Liking to some extent = 3
- Liking to a great extent = 4
- Liking to a very great extent = 5

	My evaluation of others			Expected others' evaluation of mine		
	Subordinate	Immediate supervisor	Group in general	Subordinate	Immediate supervisor	Group in general
Liking	813	824	835	846	857	868
Admiration	814	825	836	847	858	869
Respect	815	826	837	848	859	870
Feeling close	816	827	838	849	860	871
Initiative (Task)	817	828	839	850	861	872
Initiative(Social relational)	818	829	840	851	862	873
Trust	819	830	841	852	863	874
Close monitoring and evaluation	820	831	842	853	864	875
Stereotypic conformity (conformity to role expectation) or Rigid enactment of the role	821	832	843	854	865	876
Opposition	822	833	844	855	866	877
Success of outcomes due to interaction	823	834	845	856	867	878

## Appendix - B

Table - B1

Factor Pattern of Maturity Questionnaire

Item No.	Factors And Loadings				
	1	2 <sub>u</sub>	3	a <sub>4</sub>	5 <sub>u</sub>
10	60	-02	06	-04	-05
11	58	-08	-05	-04	17
5	-02	-92	04	03	06
14	21	04	59	00	-10
15	-09	-13	65	-01	00
2	14	-03	-13	-64	03
3	13	11	13	-54	09
12	18	-08	-06	04	62
Unclassified Items					
1	-11	02	08	-19	25
4	27	-24	-01	-13	-00
6	04	-27	13	-46	-17
7	04	-04	32	-15	23
8	35	-01	09	-12	11
9	43	-00	07	07	-02
13	22	-01	29	02	10
16	19	-20	29	09	33
Eigen Value IT	4.4	1.25	1.20	1.08	1.02
% of Variance IT	27.7	7.8	7.5	6.8	6.4

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reversed coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Table - B2

Factor Pattern Of Individual Behaviour Norm Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>a</sub>
17	55	-06
20	86	15
24	54	-10
22	-07	-81
23	20	-53
Unclassified Items		
18	39	02
19	30	-33
21	23	-03
25	40	-04
Eigen Value IT	3.17	1.09
% of Variance IT	35.2	12.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Table - B3

Factor Pattern Of Self Handicapping Behaviour Questionnaire

Item No.	Factors And Loadings				
	1	2	3 <sub>u</sub>	4	5 <sub>u</sub>
46	72	13	-01	-03	-07
41	70	-14	-02	-04	-13
39	62	-04	01	16	19
47	59	06	-05	06	-08
36	-10	73	05	-03	08
37	-02	71	04	09	-16
35	20	71	-10	-12	07
33	13	-01	-08	82	07
34	-18	-23	-13	76	-11
Unclassified Items					
32	31	26	12	60	07
38	01	54	-11	-06	-50
44	-36	36	03	04	67
43	-02	34	-98	08	-43
44	-02	48	-99	07	-03
45	03	40	-13	-00	-66
Eigen Value IT	3.02	2.39	1.88	1.44	1.22
% of Variance IT	18.9	14.9	11.7	9.0	7.6

EV IT = Eigen Value with iterations.

PV IT = Percent of Variance with Iterations

u = Unused factor due to high loading of only one item.

Table - B4

Factor Pattern Of Procrastination Questionnaire

Item No.	Factors And Loadings	
	1 <sub>a</sub>	2 <sub>a</sub>
55	-.51	-.14
49	.44	.12
48	-.44	-.15
56	.39	-.02
51	.22	.61
50	.12	.57
Unclassified Items		
52	.21	-.14
53	.43	.07
54	.49	.32
Eigen Value IT	1.35	0.86
% of Variance IT	15.0	9.5

EV IT = Eigen Value with Iteration

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Factor Patterns Of Self Limiting Behaviour ( Part - 2 )

Item No.	Factors And Loadings		
	1	2	3
60	60	27	-06
61	66	09	-04
62	70	-11	12
63	62	-11	26
57	-04	73	05
58	-04	65	12
59	25	50	-10
64	09	06	65
65	01	06	66
Eigen Value IT	3.48	1.47	1.00
% of Variance IT	38.6	16.3	11.1

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Table - B6

Factor Pattern Of Work Ethic Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
66	61	-04
67	69	-16
Unclassified Items		
68	45	08
69	22	05
70	00	28
Eigen Value IT	1.73	1.00
% of Variance IT	34.7	20.2

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factor due to high loading of only one item.

Table - B7

Factor Pattern Of Biographical Inventory

Item No.	Factors And Loadings					
	1	2	3 <sub>u</sub>	4 <sub>u</sub>	5 <sub>u</sub>	6 <sub>u</sub>
73	86	08	-06	05	03	-01
74	90	13	-06	04	13	01
76	22	72	-03	-04	03	-12
77	02	75	11	04	-15	-03
88	08	63	04	07	12	-08
79	03	-03	03	81	10	-10
83	04	13	10	-04	64	-07
86	05	01	09	-03	-11	65
Unclassified Items						
71	09	-00	40	12	-09	03
72	47	07	45	-06	-17	-01
75	16	-03	-10	02	15	22
78	03	04	-02	38	-06	01
80	43	18	29	06	-25	02
81	11	39	-03	-03	07	03
82	-25	45	-01	-01	22	-01
84	-09	05	35	-11	10	-06
85	-05	-06	59	19	22	39
87	-07	48	00	11	-15	29
Eigen Value IT	3.81	2.02	1.74	1.34	1.19	1.06
% of Variance IT	21.2	11.2	9.6	7.4	6.6	5.9

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factor due to high loading of only one item.



Table - B8

Factor Pattern Of Value Related Efforts Questionnaire

Item No.	Factors And Loadings					
	1 <sub>u</sub>	2	3	4 <sub>u</sub>	5	6
94	64	03	01	-20	01	07
102	-05	73	05	08	-01	-14
103	03	81	02	-04	04	06
105	02	00	82	-14	-02	06
107	09	24	57	26	-19	-04
97	29	-06	01	-62	06	-13
89	02	04	-02	-01	64	01
90	-01	02	-03	02	73	01
100	08	14	08	-12	-10	60
101	-18	12	-05	02	13	-69
Unclassified Items						
91	32	-07	-12	16	15	02
92	30	-33	14	06	12	-07
93	33	07	15	-08	16	-08
95	18	-20	04	10	01	-33
96	-06	-08	15	-34	-01	-49
98	32	-11	-06	01	21	-31
99	35	03	-16	00	03	-40
104	02	28	16	-30	-05	00
106	00	-08	45	-08	35	-08
108	19	37	07	10	-05	-26
Eigen Value IT	3.82	2.86	1.59	1.26	1.20	1.02
% of Variance IT	19.1	14.3	8.0	6.3	6.0	5.1

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factors due to high loading of only one item.

## Factor Pattern Of Chinese Value Survey

Item No.	Factors And Loadings								
	1	2 <sub>u</sub>	3 <sub>a</sub>	4 <sub>u</sub>	5 <sub>u</sub>	6 <sub>u</sub>	7	8 <sub>a</sub>	9
110	55	09	-02	-12	-10	-07	15	-13	04
114	51	-03	07	02	-09	06	-10	01	-19
120	04	60	-09	-01	-03	10	02	03	07
123	-06	00	-54	03	-06	00	-08	-13	-11
124	03	06	-54	-17	06	22	06	-09	04
134	-05	-01	-01	85	-02	05	06	04	01
118	10	-06	-15	08	-72	08	04	01	03
122	-01	11	-05	02	-02	57	03	04	-07
116	02	-02	10	05	05	01	70	-05	00
117	09	06	-00	07	-44	03	50	03	-11
128	01	-05	-22	09	-07	-16	15	-55	-12
129	09	03	-05	-06	08	16	02	-58	06
127	08	05	04	01	-05	-04	08	-14	-55
Unclassified Items									
109	35	02	-22	09	22	00	16	00	05
111	35	12	04	-14	-02	02	13	-14	-12
112	-02	40	08	26	12	01	-09	-20	11
113	35	-06	-06	-03	-06	15	13	-12	15
115	03	42	-01	01	07	-05	03	09	-19
119	18	21	-41	05	-26	-09	-00	07	23
121	-15	38	-19	-05	-08	20	05	-05	-12
125	09	-04	-14	-05	-11	49	22	16	-02
126	07	02	-18	03	06	26	01	16	-46
130	26	-06	-07	-01	-01	19	10	-35	-02
131	29	-13	12	02	-38	35	-03	-16	01
132	14	31	00	-03	-13	-05	-03	-21	-27
133	02	29	09	35	-12	-17	05	-04	-21
135	07	-14	-08	23	-10	26	04	-25	01
136	04	10	09	-08	-05	34	03	-23	-02
Eigen Value IT	5.42	2.28	1.62	1.50	1.34	1.23	1.11	1.09	1.04
% of Variance IT	19.3	8.2	5.8	5.4	4.8	4.4	4.0	3.9	3.7

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factors due to high loading of only one item.

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Table - B10

Factor Pattern Of Learned Helplessness Questionnaire

Item No.	Factors And Loadings			
	1	2	3 <sub>u</sub>	4 <sub>u</sub>
177	59	-03	-08	23
178	65	00	01	-07
179	89	-15	06	-07
180	63	-07	12	-11
166	-04	75	07	-05
167	-08	78	00	-06
168	-02	68	00	18
170	-02	-04	00	65
175	20	14	-52	-06
Unclassified Items				
165	24	25	31	11
169	00	36	-10	38
171	02	15	25	21
172	17	15	46	-04
173	-08	21	30	01
174	19	05	-49	13
176	30	23	-40	-18
Eigen Value IT	3.26	3.12	1.31	1.21
% of Variance IT	19.2	18.3	7.7	7.1

EV IT = Eigen Values with iterations

PV IT = Percent of Variance with iterations

u = Unused factor due to high loading of only one item

Factor Pattern Of Self Monitoring Questionnaire

Item No.	Factors And Loadings		
	1 <sub>a</sub>	2	3
182	-55	-04	-10
186	68	-05	02
188	54	13	-08
193	65	-08	-02
183	02	53	08
190	-10	57	-03
191	11	00	58
192	28	-10	65
Unclassified Items			
184	00	40	-32
185	-14	31	-24
187	27	35	-14
189	25	39	07
194	45	17	14
Eigen Value IT	3.61	1.78	1.10
% of Variance IT	27.8	13.7	8.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Table - B12

Factor Pattern Of Self Consciousness Questionnaire

Item No.	Factors And Loadings		
	1	2	3 <sub>a</sub>
201	68	-12	-16
202	67	-11	-09
203	68	08	05
204	68	15	17
205	59	07	-06
195	-02	68	07
196	12	59	-05
197	01	60	-12
199	04	-01	-83
200	09	-03	-65
Unclassified Items			
198	07	30	-46
Eigen Value IT	3.48	1.76	1.43
% of Variance IT	31.6	16.0	13.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Table - B13

Factor Pattern Of Self Awareness Questionnaire

Item No.	Factors And Loadings
	1
206	50
207	67
208	63
209	64
210	57
211	66
212	55
213	55
Unclassified Items	
214	46
Eigen Value IT	3.72
% of Variance IT	41.3

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Factor Pattern Of Private Self Awareness Questionnaire

Item No.	Factors And Loadings
	1
215	60
216	72
217	71
Unclassified Items	
218	35
Eigen Value IT	2.07
% of Variance IT	51.8

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Factor Pattern Of Task Significance Questionnaire

Item No.	Factors And Loadings 1
219	59
220	83
221	73
Eigen Value IT	2.03
% of Variance IT	67.6

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations



Factor Pattern Of Task Identity Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
222	70	-07
223	71	07
Unclassified Items		
224	00	16
Eigen Value IT	1.49	1.00
% of Variance IT	49.8	33.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

u = Unused factor due to high loading of only one item.

Factor Pattern Of Autonomy Questionnaire

Item No.	Factors And Loadings
	1
225	62
226	79
227	69
228	64
229	67
Eigen Value IT	2.86
% Variance IT	57.2

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Factor Pattern Of Feedback Questionnaire

Item No.	Factors And Loadings
232	1 <sub>u</sub>
Unclassified Items	76
230	22
231	45
Eigen Value IT	1.43
% Variance IT	47.8

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factor due to high loading of only one item.

Factor Pattern Of Skill Variety Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
235	59	-06
236	82	-01
237	72	00
233	-02	82
Unclassified Items		
234	01	47
238	42	04
Eigen Value IT	2.31	1.31
% Variance IT	38.5	21.9

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

u : Unused item because of high loading of only one item.

Table - B20

Factor Pattern Of Problem Demands In Terms Of Time Questionnaire

Item No.	Factors And Loadings
	1
239	71
240	70
241	65
242	59
243	53
Eigen Value IT	2.63
% of Variance IT	52.7

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Table - B21

Factor Pattern Of Achievement, Power And Affiliatory Relationship  
Questionnaire

Item No.	Factors And Loadings	
	1	2
244	69	-07
245	67	-10
246	54	13
248	-01	56
249	00	67
Unclassified Items		
247	43	26
Eigen Value IT	2.27	1.25
% of Variance IT	37.8	20.9

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Factor Pattern Of Individual Effort Performance Questionnaire

Item No.	Factors And Loadings
	1
250	52
251	61
252	65
253	
254	
255	
Eigen Value IT	2.33
% of Variance IT	38.8

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Table - B23

Factor Pattern Of Learning ( As A Value ) Questionnaire

Item No.	Factors And Loadings	
	1	2
265	83	-17
266	58	09
267	54	18
268	53	11
269	64	-06
261	03	56
262	-05	83
Unclassified Items		
260	48	02
263	37	18
264		
Eigen Value IT	3.93	1.15
% of Variance IT	39.3	11.5

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations



Factor Pattern Of Personal Relations To Group Members Questionnaire

Item No.	Factor And Loading
	1
270	50
271	50
Eigen Value IT	1.26
% of Variance IT	62.8

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Table - B25

Factor Pattern Of Individual's Functional Place In Group Questionnaire

Item No.	Factor And Loading
	1
272	58
273	68
274	61
275	69
276	60
277	54
Eigen Value IT	2.92
% of Variance IT	48.6

EV IT = Eigen Value with Iterations

PV IT = Percent of Variance with Iterations

Factor Pattern Of Facilitating Organisational Climate Questionnaire

Item No.	Factors And Loadings
	1
290	70
291	75
292	67
293	65
294	69
295	66
296	73
297	63
Eigen Value IT	4.29
% of Variance IT	53.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

Table - B27

Factor Pattern Of Motivation Management Plans Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
298	68	-25
299	66	07
300	68	-02
304	72	08
305	66	-04
306	74	-17
307	59	02
308	73	06
Unclassified Items		
301	36	11
302	-08	36
303	41	69
Eigen Value IT	4.57	1.27
% of Variance IT	41.5	11.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

u : Unused factor because of high loading of only one item.

Factor Pattern Of Organisational Norms And Values Questionnaire

Item No.	Factors And Loadings		
	1	2 <sub>u</sub>	3 <sub>a</sub>
309	63	07	08
310	57	-07	-02
311	53	18	00
313	51	20	-14
314	57	03	-02
315	80	00	-03
316	78	-02	-02
317	76	-11	-02
318	63	-01	-03
312	07	84	00
319	09	-09	56
320	-05	12	53
321	23	-01	-54
Eigen Value IT	4.97	1.36	1.05
% of Variance IT	38.2	10.4	8.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Factor Pattern Of Supportiveness And Hostility Of The Environment  
Questionnaire

Item No.	Factors And Loadings				
	1	2 <sub>a</sub>	3	4	5 <sub>u</sub>
327	56	-02	-08	-08	-08
328	81	-03	23	10	-18
329	62	07	-14	13	22
325	-03	-53	14	11	16
326	11	67	08	17	20
331	11	01	80	-08	12
322	08	08	-11	55	-05
323	06	03	-01	61	12
334					63
Unclassified Items					
324	01	-04	-02	21	-06
330	-04	-09	16	22	10
332	36	00	-04	-14	21
333	17	-20	-35	14	20
335	13	-48	-08	05	-03
Eigen Value IT	2.72	1.77	1.46	1.20	1.01
% of Variance IT	14.5	12.6	10.4	8.6	7.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with Iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Factor Pattern Of Need Structure Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
336	56	-05
338	75	-03
341	65	07
340	-04	64
Unclassified Items		
337	02	25
339	26	39
Eigen Value IT	2.09	1.20
% of Variance IT	34.9	20.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern Of Individual Effectiveness Criteria (Past) Questionnaire

Item No.	Factors And Loadings		
	1	2 <sub>u</sub>	3 <sub>u</sub>
346	70	-04	03
347	92	-13	-04
348	54	20	-07
350	51	21	00
355	-09	84	-07
344	01	08	83
Unclassified Items			
342	43	04	04
343	01	41	23
345	52	-06	36
349	34	38	04
351	49	22	-08
352	19	49	00
353	18	49	03
354	05	49	16
Eigen Value IT	5.29	1.28	1.12
% of Variance IT	37.8	9.1	8.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.



Factor Pattern Of Individual Effectiveness Criteria (Future) Questionnaire

Item No.	Factors And Loadings		
	1	2	3 <sub>a</sub>
365	50	02	-24
366	59	07	-10
367	65	-01	-09
368	81	09	12
369	62	04	-02
356	21	51	06
357	-01	76	02
358	-12	78	-08
359	13	51	-12
360	21	03	-50
361	06	04	-74
362	-11	10	-79
Unclassified Items			
363	26	14	-35
364	38	-05	-45
Eigen Value IT	6.15	1.29	1.07
% of Variance IT	43.9	9.2	7.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Factor Pattern Of Individual Need Fulfillment Questionnaire

Item No.	Factors And Loadings	
	1	2
373	50	04
374	82	-12
377	55	16
378	74	03
379	55	-03
370	-08	56
371	03	52
Unclassified Items		
372	12	44
375	43	07
376	26	42
Eigen Value IT	3.67	1.15
% of Variance IT	36.6	11.5

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern Of Value Realisation (Part - 1) Questionnaire

Item No.	Factors And Loadings				
	1	2	3 <sub>a</sub>	4	5
393	66	02	-07	11	-10
395	75	-10	14	-09	20
383	-02	54	01	05	-03
384	-01	93	-02	-12	11
389	-10	-04	-92	02	05
390	16	19	-53	00	-01
386	-04	-02	05	89	03
387	13	01	-06	55	-01
380	02	06	08	03	60
381	01	-03	-14	-02	77
Unclassified Items					
382	29	-04	-08	09	22
385	08	10	-06	28	31
388	03	-06	-29	26	15
391	33	04	-27	-05	-03
392	42	14	-02	14	-04
394	42	04	-07	14	11
Eigen Value IT	4.57	1.67	1.24	1.19	1.06
% of Variance IT	28.6	10.4	7.8	7.4	6.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Factor Pattern Of Value Realisation (Part - 2) Questionnaire

Item No.	Factors And Loadings				
	1	2 <sub>a</sub>	3 <sub>u</sub>	4	5 <sub>u</sub>
405	68	-10	05	00	-10
406	57	-20	-04	-02	-01
400	08	-87	-07	02	09
398	-04	-14	58	09	15
401	24	-06	-16	51	07
402	-10	04	14	74	01
397	-03	00	08	-10	77
Unclassified Items					
396	-01	-06	-02	09	49
399	06	-55	31	-03	02
403	03	-01	44	26	14
404	27	-03	25	20	-00
407	49	-25	-08	08	14
408	40	-17	04	16	01
409	47	16	-10	13	24
410	48	19	15	04	13
411	42	04	41	-11	00
Eigen Value IT	4.56	1.58	1.34	1.18	1.00
% of Variance IT	28.5	9.9	8.4	7.4	6.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Factor Pattern Of Need Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>u</sub>
417	59	10
418	91	-14
420	18	69
Unclassified Items		
419	36	38
421	-09	44
Eigen Value IT	2.16	1.14
% of Variance IT	43.2	22.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern Of Group Task Motivation Questionnaire

Item No.	Factors And Loadings	
	1	2
426	79	-13
427	63	13
422	02	76
424	27	54
Unclassified Items		
423	37	19
425	46	27
428		
429		
Eigen Value IT	3.25	1.01
% of Variance IT	40.6	12.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern Of Role Identity Questionnaire

Item No.	Factors And Loadings
	1
431	50
432	68
433	60
Unclassified Items	
430	42
Eigen Value IT	1.90
% of Variance IT	47.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern Of Effort Performance Expectancy

Item No.	Factors And Loadings
	1
434	56
435	65
436	69
Eigen Value IT	1.81
% of Variance IT	60.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT



Factor Pattern Of Group Behaviour Questionnaire

Item No.	Factors And Loadings				
	1	2 <sub>u</sub>	3 <sub>u</sub>	4	5 <sub>u</sub>
450	60	-18	05	-14	03
451	65	-02	03	-01	09
452	55	12	05	-14	17
453	56	-09	05	-17	-02
454	63	-06	05	-11	08
455	76	20	-04	-01	-19
456	56	-01	07	-10	00
458	56	-14	-02	-07	22
459	59	14	-05	-01	20
460	65	02	-08	11	01
442	-02	82	05	-12	02
438	08	-08	-98	16	06
440	03	04	12	58	01
444	06	-10	01	61	-03
445	04	-08	08	71	19
448	09	11	01	08	65
Unclassified Items					
437	10	26	-27	07	18
439	18	-08	-11	-49	17
441	25	22	12	-34	03
443	11	30	-04	-39	04
446	22	02	01	-27	15
447	02	40	04	12	04
449	38	01	01	35	04
457					
Eigen Value IT	8.40	1.95	1.16	1.31	1.04
% of Variance IT	35.0	8.1	4.8	4.7	4.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern Of Performance Reward Expectancy Questionnaire

Item No.	Factors And Loadings	
	1	2 <sub>a</sub>
464	57	-02
465	69	04
466	68	07
468	60	00
469	54	-19
461	00	-72
462	-08	-85
Unclassified Items		
463	12	-45
467	41	-32
Eigen Value IT	3.72	1.23
% of Variance IT	41.3	13.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Factor Pattern Of Quality Awareness Questionnaire

Item No.	Factor And Loading
	1
470	60
471	58
472	65
473	66
474	54
475	73
Eigen Value IT	2.98
% of Variance IT	49.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern Of Span Of Control Questionnaire

Item No.	Factor And Loading
	1
476	56
477	56
Eigen Value IT	1.31
% of Variance IT	65.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern Of Task Characteristics Questionnaire

Item No.	Factor And Loading
	1 <sub>u</sub>
479	71
Unclassified Items	
478	12
480	48
Eigen Value IT	1.37
% of Variance It	45.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern Of Stratification Questionnaire

Item No.	Factor And Loading
	1
481	60
482	86
483	71
Unclassified Items	
484	46
Eigen Value IT	2.30
% of Variance IT	57.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B46

Factor Pattern of Task Structure Questionnaire

Item No.	Factors and Loadings	
	1	2
487	78	05
488	29	54
Unclassified Items		
486	45	-04
489	-07	38
Eigen Value IT	1.58	1.07
% of Variance IT	39.5	26.8

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B47

Factor Pattern of Group Learning Questionnaire

Item No.	Factor and Loading
	1
494	57
495	68
496	69
497	61
498	66
499	69
500	67
501	56
502	64
Eigen Value IT	4.30
% of Variance IT	47.8

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT



Table - B48

Factor Pattern of Goal Setting Questionnaire

Item No.	Factor and Loading
	1
504	78
505	54
507	55
Unclassified Item	
503	35
Eigen Value IT	1.92
% of Variance IT	48.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B49

Factor Pattern of Informal Personal Relations Questionnaire

Item No.	Factors and Loadings	
	1	2
509	58	-02
510	53	03
511	67	-02
513	18	53
514	-11	68
Unclassified Items		
508	40	03
512	16	34
Eigen Value IT	2.48	1.07
% of Variance IT	35.5	15.2

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B50

Factor Pattern of Interpersonal Trust at Work Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>u</sub>	3 <sub>u</sub>
515	80	20	-05
516	71	-15	-12
517	25	-65	17
518	-28	-01	77
Unclassified Items			
519	45	-05	11
520	48	-15	26
521	11	32	75
522	-13	78	30
Eigen Value IT	2.70	1.54	1.11
% of Variance IT	30.0	17.1	12.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Table - B51

Factor Pattern of Reinforcement Questionnaire

Item No.	Factor and Loading
	1
526	.75
527	.75
Eigen Value IT	1.57
% of Variance IT	78.5

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B52

Factor Pattern of Friendship Opportunities Questionnaire

Item No.	Factor and Loading
	1
528	56
529	73
530	80
531	66
Eigen Value IT	2.42
% of Variance IT	60.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B53

Factor Pattern of Group Growth Opportunities Questionnaire

Item No.	Factor and Loading
	1
532	74
533	92
534	84
535	72
Eigen Value IT	2.95
% of Variance IT	73.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B54

Factor Pattern of Social Facilitation Questionnaire

Item No.	Factor and Loading
	1
536	57
537	68
538	60
539	59
540	61
541	73
542	71
Eigen Value IT	3.49
% of Variance IT	49.5

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B55

Factor Pattern of Feedback Questionnaire

Item No.	Factor and Loading
	1
543	76
544	81
545	84
546	72
547	60
548	61
Eigen Value IT	3.64
% of Variance IT	60.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT



Table - B56

Factor Pattern of Group Growth Consideration Questionnaire

Item No.	Factor and Loading
	1
549	66
550	74
551	69
552	68
553	69
554	63
555	66
556	80
557	79
Eigen Value IT	4.99
% of Variance IT	55.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B57

Factor Pattern of Quality Concern Questionnaire

Item No.	Factor and Loading
	1
558	77
559	73
560	81
561	86
562	78
563	76
564	70
Eigen Value IT	4.59
% of Variance IT	65.5

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B58

Factor Pattern of Management Support Questionnaire

Item No.	Factor and Loading
	1
565	69
566	73
567	82
568	79
569	72
570	76
571	79
572	82
573	75
574	66
Eigen Value IT	6.13
% of Variance IT	61.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B59

Factor Pattern of Transformational Leadership Style Questionnaire

Item No.	Factor and Loading
	1
575	69
576	69
577	74
578	65
579	75
580	67
581	65
582	74
583	73
584	74
585	81
586	70
587	73
588	66
589	74
590	66
591	61
592	58
593	61
594	59
Eigen Value IT	10.0
% of Variance IT	50.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with iterations

Table - B60

Factor Pattern of Organization (organizational values) Questionnaire

Item no.	Factors and Loadings				
	1	2	3	4 <sub>u</sub>	5 <sub>u</sub>
600	55	12	00	05	22
602	67	00	00	01	05
611	58	09	-06	08	-02
614	70	03	01	17	02
615	68	02	00	03	08
616	63	16	07	-05	-28
599	10	53	-07	02	17
617	-15	54	03	-14	02
598	09	02	61	16	02
601	04	06	91	27	-02
607	00	12	04	12	54
Unclassified Items					
595	02	12	30	-09	32
596	41	43	00	23	09
597	39	12	03	04	05
603	31	09	35	51	10
604	27	17	12	03	28
605	35	06	-16	01	39
606	26	11	31	38	20
608	38	16	-28	00	-22
609	34	03	03	-35	-43
610	-02	03	10	29	49
612	34	22	23	-43	04
613	21	19	18	08	30
618	59	35	16	08	20
Eigen Value IT	7.33	2.20	1.59	1.31	1.11
% of Variance IT	30.5	9.2	6.6	5.5	4.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Table - B61

Factor Pattern of Equity of Reward Questionnaire

Item No.	Factor and Loading
	1
628	75
629	59
632	52
Unclassified Items	
631	16
Eigen Value IT	1.81
% of Variance IT	45.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B62

Factor Pattern of Locus of Control (a dimension) Questionnaire

Item No.	Factors and Loadings	
	1	2
636	70	08
637	91	-10
638	89	-10
639	62	12
633	07	53
634	-14	92
635	19	59
Unclassified Items		
640	46	30
Eigen Value IT	3.89	1.36
% of Variance IT	48.7	17.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B63

Factor Pattern of Locus of Control (b dimension) Questionnaire

Item No.	Factor and Loading
	1
641	61
642	62
643	70
644	78
645	81
646	72
647	74
648	66
Eigen Value IT	4.49
% of Variance IT	56.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT



Table - B64

Factor Pattern of Quality of Work Life Questionnaire

Item No.	Factors and Loadings			
	1 <sub>u</sub>	2	3 <sub>a</sub>	4 <sub>u</sub>
661	84	-10	-06	-06
654	05	60	05	-01
656	-14	62	-14	04
652	07	-01	-62	-10
653	-09	09	-69	21
650	01	-01	04	66
Unclassified Items				
649	34	04	-15	23
651	46	-05	-08	22
655	39	23	16	03
657	24	28	-43	-10
658	31	18	-14	14
659	18	34	-07	33
660	36	36	-08	-04
662	43	-04	26	16
Eigen Value IT	4.49	1.29	1.24	1.03
% of Variance IT	32.1	9.2	8.9	7.4

EV IT = Eigen Values with iterations

PV IT = Percent of Variance with iterations

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Table - B65

### Factor Pattern of the Control of the Surrounding Environment Questionnaire

Item No.	Factors and Loadings				
	1	2	3	4 <sub>a</sub>	5 <sub>u</sub>
677	67	-05	-05	14	01
680	68	-01	-03	08	13
681	81	-00	07	01	20
682	54	10	01	01	04
664	12	77	01	-08	15
665	05	66	-08	-01	02
666	16	53	-13	-01	12
668	06	50	-02	10	25
686	13	05	76	26	11
687	23	01	57	12	15
670	13	17	01	-52	10
671	25	18	15	-85	04
672	23	14	10	-72	00
674	13	18	00	07	79
675	15	25	09	09	66
Unclassified Items					
663	41	28	-11	-08	07
667	21	24	-18	02	30
668	06	52	-02	10	35
669	-07	22	03	00	14
673	08	07	-45	17	20
676	52	02	-13	22	04
678	43	-09	-17	16	36
679	50	-05	-14	33	14
683	24	34	08	20	54
684	12	15	-25	18	03
685	20	-04	12	15	02
Eigen Value IT	7.52	2.05	1.84	1.34	1.22
% of Variance IT	30.1	8.2	7.3	5.4	4.9

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

u : Unused factor due to high loading of only one item.

Table - B66

Factor Pattern of Team Building Questionnaire

Item No.	Factor and Loading
	1
688	77
689	75
690	74
691	75
Eigen Value IT	2.71
% of Variance IT	67.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B67

### Factor Pattern of Organizational Effectiveness Questionnaire

Item No.	Factors and Loadings			
	1	2	3 <sub>u</sub>	4
692	61	-06	-07	-20
693	55	03	-18	-06
694	88	-02	03	-02
695	86	-06	06	-11
696	73	09	-07	05
697	68	10	-03	15
699	09	70	01	00
700	08	70	-14	10
705	12	10	-52	-05
708	29	13	00	-55
<b>Unclassified Items</b>				
698	36	38	-03	-00
701	-07	46	01	-41
702	-10	44	-12	-28
703	-04	-01	-01	07
704	15	32	-30	-12
706	15	24	-03	-45
707	18	-14	-38	-56
Eigen Value IT	7.43	1.68	1.06	1.03
% of Variance IT	43.7	9.9	6.2	6.1

EV IT = Eigen Values with iterations

PV IT = Percent of Variance with iterations

u : Unused factor due to high loading of only one item.

Table - B68

Factor Pattern of Formalization Questionnaire

Item No.	Factor and Loading
	1
710	51
711	64
712	76
713	60
714	71
715	72
716	70
Unclassified Items	
709	43
717	36
Eigen Value IT	4.01
% of Variance IT	44.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B69

Factor Pattern of Bureaucratization Questionnaire

Item No.	Factor and Loading
	1
719	56
721	59
722	60
Unclassified Items	
718	43
720	44
723	24
Eigen Value IT	2.17
% of Variance IT	36.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern of Nature of Group Questionnaire

Item No.	Factors and Loadings	
	1	2
725	67	-11
729	71	20
730	56	25
731	71	02
727	12	79
728	29	55
Unclassified Items		
726	-04	32
732	-14	19
Eigen Value IT	2.88	1.38
% of Variance IT	36.0	17.3

EV IT = Eigen Values with iterations

PV IT = Percent of Variance with IT

Table - B71

Factor Pattern of Group Size Questionnaire

Item No.	Factor and Loading
	1
732	66
733	66
Eigen Value IT	1.44
% of Variance IT	71.9

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT



Table - B72

Factor Pattern of Group Behaviour Norm Questionnaire

Item No.	Factors and Loadings	
	1	2 <sub>u</sub>
735	65	-02
736	75	03
738	08	59
Unclassified Items		
737	31	42
734	-03	18
Eigen Value IT	2.05	1.01
% of Variance IT	41.1	20.2

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern of Work Schedule Questionnaire

Item No.	Factors and Loadings		
	1	2	3 <sub>u</sub>
745	86	02	-11
746	74	09	09
747	63	-02	-02
748	69	08	-04
749	58	-17	05
753	-08	76	-05
754	-18	91	-13
755	-04	70	08
Unclassified Items			
743	40	-05	-46
744	64	-08	-38
750	49	-22	28
751	21	-32	39
752	-17	28	33
Eigen Value IT	4.93	1.90	1.21
% of Variance IT	37.9	14.6	9.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Table - B75

Factor Pattern of Special Reward (Recognition) Questionnaire

Item No.	Factor and Loading
	1
760	68
761	84
762	60
Eigen Value IT	1.10
% of Variance IT	66.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B76

Factor Pattern of Task Difficulty Questionnaire

Item No.	Factors and Loadings	
	1	2
768	52	-21
770	63	20
771	-20	87
Unclassified Items		
767	-21	24
769	33	-06
Eigen Value IT	1.72	1.10
% of Variance IT	34.3	22.0

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Table - B77

Factor Pattern of Group Goal Accomplishment Questionnaire

Item No.	Factor and Loadings
	1
778	72
779	80
780	62
Unclassified Items	
777	27
EV IT	2.12
PV IT	52.9

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern of Managerial Role Rating Questionnaire

Item No.	Factors and Loadings	
	1	2 <sub>a</sub>
781	54	13
787	72	-07
789	52	-26
790	68	-01
784	08	-69
785	-11	-91
Unclassified Items		
782	30	-43
783	44	-24
786	41	-17
788	28	-40
Eigen Value IT	4.33	1.16
% of Variance IT	43.3	11.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Factor Pattern of Group Cohesiveness Questionnaire

Item No.	Factors and Loadings		
	1	2	3 <sub>u</sub>
791	65	-25	-19
796	53	09	08
797	51	-05	-29
793	-12	80	-17
794	04	74	-11
795	23	61	18
798	-01	09	-82
Unclassified Items			
792	34	-15	-43
799	-17	49	15
Eigen Value IT	3.07	1.81	1.05
% of Variance IT	34.1	20.1	11.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern of Organizational Commitment Questionnaire

Item No.	Factors and Loadings		
	1 <sub>u</sub>	2 <sub>u</sub>	3 <sub>a</sub>
800	-10	13	-62
807	-03	00	-50
Unclassified Items			
801	14	-14	-39
802	36	-16	-27
803	40	-21	-43
804	16	-49	-16
805	36	08	15
806	36	92	-17
808	17	-44	00
809	17	28	29
Eigen Value IT	2.69	1.31	1.23
% of Variance IT	27.0	13.1	12.3

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.



Table - B81

Factor Pattern of Espirit de Corps Questionnaire

Item No.	Factor and Loading
	1
810	57
811	83
812	57
Eigen Value IT	1.85
% of Variance IT	61.8

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

Factor Pattern of Role Relationship (1) Questionnaire

Item No.	Factors and Loadings	
	1	2 <sub>u</sub>
814	62	-10
815	69	-15
816	70	18
817	53	-01
818	55	04
820	50	-11
Unclassified items		
813	66	31
819	62	-33
821	28	40
822	-09	36
823	39	10
Eigen Value IT	3.81	1.28
% of Variance IT	34.7	11.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern of Role Relationship (2) Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>u</sub>	3 <sub>u</sub>
824	84	-12	09
825	74	-05	-16
826	74	-05	-20
827	69	05	18
831	-03	74	-19
Unclassified Items			
828	45	32	-02
829	50	26	40
830	33	39	-37
832	-01	18	06
833	-03	-01	33
834	43	14	-15
Eigen Value IT	4.18	1.18	1.11
% of Variance IT	38.0	10.8	10.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern of Role Relationship (3) Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>u</sub>	3 <sub>u</sub>
835	76	03	-10
836	81	11	02
837	52	-28	18
839	58	-04	06
845	53	-12	-17
844	04	51	07
Unclassified Items			
838	53	08	34
840	45	05	30
841	35	-43	30
842	15	-32	38
843	-04	04	45
Eigen Value IT	4.27	1.19	1.07
% of Variance IT	38.8	10.8	9.7

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Factor Pattern of Role Relationship (4) Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>u</sub>	3 <sub>u</sub>
846	80	04	-16
847	79	09	-08
848	76	-11	-04
849	66	03	09
850	52	-08	03
855	-04	78	-03
853	-04	-05	87
Unclassified Items			
851	45	10	14
852	40	-26	37
854	07	18	22
856	35	05	18
Eigen Value IT	4.02	1.21	1.11
% of Variance IT	36.5	11.0	10.1

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

Table - B86

Factor Pattern of Role Relationship (5) Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>a</sub>	3 <sub>u</sub>
857	77	08	-02
858	83	20	-05
859	71	-05	06
860	71	-02	14
861	50	-29	02
863	18	-75	06
864	10	-58	12
865	-01	02	87
<b>Unclassified Items</b>			
862	47	-15	-06
866	06	33	02
867	41	-26	05
Eigen Value IT	4.16	1.36	1.04
% of Variance IT	37.8	12.4	9.4

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

a : Scores of the respondents on this factor were reverse coded for further use in order to compensate for negative salient loadings.

Table - B87

Factor Pattern of Role Relationship (6) Questionnaire

Item No.	Factors and Loadings		
	1	2 <sub>a</sub>	3 <sub>u</sub>
868	76	-12	-05
869	87	-03	12
876	-03	80	08
874	04	-07	-78
<b>Unclassified Items</b>			
870	38	03	-43
871	45	22	-08
872	27	12	-47
873	41	08	-16
875	05	33	-35
877	02	01	23
878	06	27	-34
Eigen Value IT	4.16	1.24	1.06
% of Variance IT	37.8	11.3	9.6

EV IT = Eigen Values with Iterations

PV IT = Percent of Variance with IT

u : Unused factor due to high loading of only one item.

## Appendix - C

Forced Factor Analysis Results for the Sectors in the Conceptual Scheme

Variables	Factor Matrix
<u>Sector c</u>	
SHAC	.05
HSOSAR	.34
SIFAFP	.01
SKAP	.42
FCWU	.51
SEP	-.05
SPACWDL	-.07
NSPDCDS	.59
CMM	.42
PSONV	.42
SJPP	-.22
SOPSA	-.05
SCL	.19
SEWC	-.13
SOS	-.05
PNS	.33
<u>Sector f</u>	
GL	.55
JEGL	.77
GR	.56
GGA	.54
CVEFW	.17
QSBFW	-.06
<u>Sector g</u>	
AI	.74
PIM	.56
Ab	-.21
PASCC	.55
TB	.80
EDC	.56



## Appendix - D

Table - D1

Factor Pattern of "Second Order" Factor Analysis of Individual Characteristic Variables

Variables	Factors and Loadings									
	1	2	3	4	5	6	7	8	9	10
JKU	.66	.01	-.03	.07	.14	-.04	-.02	.09	.08	-.04
UE	.07	.72	.16	.04	-.01	.12	-.03	-.07	.02	-.05
CISSP	.11	.53	-.06	.07	-.03	-.02	-.19	-.01	.04	-.02
R	-.08	.53	-.04	.00	.01	-.11	.65	-.06	.24	.00
PM	-.00	-.12	-.05	.92	-.02	.05	-.01	-.06	-.07	-.02
IS	.00	-.07	-.12	-.09	.86	-.08	-.15	.11	.09	.04
SCP	-.05	-.02	-.02	.09	-.06	-.59	-.02	-.22	.18	.06
PGF	.03	-.21	-.04	-.02	.01	-.50	.04	-.10	-.00	-.20
SA	.05	.01	.06	-.06	.05	-.68	-.05	.05	-.05	-.00
FFP	-.11	.02	.08	.11	.06	.02	-.59	-.08	.01	-.01
LIA	.15	-.17	.03	.03	-.10	.11	.04	.64	-.07	.11
VSRAW	.04	.18	.06	.05	.00	.00	-.12	-.05	.56	.20
KAP	.06	-.10	-.12	-.01	-.06	.02	-.14	-.07	.08	.76
Unclassified Items										
IEI	-.46	-.15	-.09	.08	.01	.10	-.25	.10	.07	.02
WRA	.44	-.02	.01	.01	.00	.05	.16	-.02	-.06	-.22
ICF	-.40	.04	-.04	.14	-.01	.11	.29	.05	-.06	.21
IM	-.02	.46	-.12	-.11	-.04	.08	-.07	-.09	.09	.02
MA	.02	.22	.47	.07	.01	-.35	.05	.09	.03	-.12
IFAFP	.12	.02	-.43	.08	.00	-.19	.10	.02	-.04	-.26
VWP	.41	-.13	.06	-.08	.08	-.11	.21	-.25	-.04	-.04
HPI	.33	-.18	.35	.03	.10	-.12	-.11	-.32	-.18	-.09
OSWI	.20	-.05	.35	-.05	-.01	-.07	.12	-.04	-.04	-.14
HQPM	.12	.03	-.05	.42	-.08	-.03	-.13	-.11	.27	.03
Sn	.09	.06	.07	.05	.46	.07	.08	-.16	-.11	.07
WE	.07	-.14	.14	-.04	-.02	.03	.46	.07	.12	-.08

table - D1 continues...

table - D1 continued..

Variables	Factors and Loadings									
	1	2	3	4	5	6	7	8	9	10
UMT	.14	.27	.08	.15	-.10	-.20	-.39	.16	.16	.07
HSSR	-.00	.13	-.08	-.02	-.02	-.01	.13	.04	-.09	-.39
HAC	.04	.07	-.11	-.08	.08	-.24	-.01	.11	.03	-.31
PP	.36	.14	-.01	.01	-.08	-.16	.12	-.39	-.15	.11
LPPOINT	.12	.05	.11	.10	.18	.17	.11	-.25	.46	-.15
VCWP	-.06	.04	-.06	.02	-.07	-.13	.08	.09	.41	-.03
PJC	.27	-.14	.20	-.03	.01	-.13	-.03	-.29	-.06	-.01
PCWLC	-.09	.30	.01	.17	-.08	-.08	-.21	-.14	.10	.06
AA	.13	-.29	-.14	-.11	-.10	.11	-.11	-.09	.06	.01
Eigen Value	5.01	3.96	1.85	1.65	1.46	1.44	1.28	1.20	1.07	1.01
% of Variance	14.7	11.6	5.4	4.8	4.3	4.2	3.7	3.5	3.2	3.0

Table - D2

Factor Pattern of "Second Order" Factor Analysis of Individual Task  
Characteristic Variables

Variables	Factors and Loadings	
	1	2
A	.82	.13
TI	.61	-.02
TS	.58	-.09
TC	-.07	.77
Unclassified Items		
SJRT	.03	.36
Eigen Value	1.93	1.26
% of Variance	38.6	25.1

Table - D3

Factor Pattern of "Second Order" Factor Analysis of Individual's Value Climate and Culture Variables

Variables	Factors and Loadings		
	1	2	3 <sub>u</sub>
CRG	.68	.02	-.12
LV	.68	.19	-.03
VII	.56	.18	.06
EI	.72	-.13	-.02
PRE	.03	.81	-.01
EPWMEJ	.04	.75	.10
AR	.18	.07	.74
Unclassified Items			
APO	.56	-.36	.35
ICTOR	.41	-.05	-.65
HWEG	.41	.36	.03
Eigen Value	2.68	1.39	1.11
% of Variance	26.8	13.9	11.1

Factor Pattern of "Second Order" Factor Analysis of Organizational  
Support Variables

Variables	Factors and Loadings	
	1	2
CMM	.93	-.10
FCWU	.62	-.18
ABV	.08	.69
NWN	.10	.59
Unclassified Items		
PSONV	.69	-.32
TCWC	.21	-.30
WP	.17	.04
Eigen Value	3.17	1.04
% of Variance	45.3	14.9

Factor Pattern of "Second Order" Factor Analysis of Management Practices Variables

Variables	Factors and Loadings		
	1	2	3 <sub>u</sub>
QC	.90	-.01	-.02
MS	.88	-.05	-.01
TLS	.83	.01	-.15
GGC	.78	.18	.07
NRCTE	.07	.60	-.11
RCPCP	-.01	.53	.21
FO	.01	.09	.57
Unclassified Items			
GO	.59	-.05	.30
SF	.43	-.13	.53
FB	.61	.04	.33
AI	.44	.05	.04
JA	.09	.00	.44
ERS	.35	.10	.16
DE	.27	-.12	.21
Eigen Value	6.21	1.33	1.03
% of Variance	44.4	9.5	7.4

Factor Pattern of "Second Order" Factor Analysis of Individual Effectiveness Variables

Variables	Factors and Loadings					
	1	2	3 <sub>u</sub>	4 <sub>u</sub>	5 <sub>u</sub>	6 <sub>u</sub>
CEDS	.89	.04	-.07	.26	-.07	-.01
NSPDCDS	.95	-.04	.02	-.27	.04	-.02
SJPP	-.02	.60	-.07	.12	.05	.06
SEWC	-.00	.56	-.05	-.03	-.04	.06
NSHSSR	-.14	.00	1.00	.01	-.00	-.02
SEP	.05	.13	.03	.66	-.01	-.09
FSAN	-.01	.07	.05	-.09	-.81	.18
SOPSA	-.06	.24	-.13	-.03	-.07	.53
Unclassified Items						
SPACWDL	-.05	-.05	.01	.47	.03	.05
SOS	-.04	.45	.00	-.10	-.22	-.08
NAI	.20	-.40	.07	.05	-.14	.42
SKAP	.11	-.06	.39	.08	-.11	.04
FRAN	.21	.06	.06	.01	-.34	.00
SLC	-.00	-.03	.05	-.00	-.04	.31
SIFAFP	.04	.19	.09	.03	.04	.03
SHAC	.03	.07	.14	-.04	.13	.11
Eigen Value	2.62	1.80	1.56	1.31	1.12	1.10
% of Variance	16.4	11.3	9.8	8.2	7.1	6.9

Factor Pattern of "Second Order" Factor Analysis of Group  
Characteristics Variables

Variables	Factors and Loadings		
	1	2	3
SPGN	.87	-.14	.09
EPGN	.87	.02	.03
RE	.67	-.01	.06
F	-.15	.75	-.10
B	.07	.77	.20
FIFPG	.02	.22	-.75
Unclassified Items			
SOC	.07	.39	.69
CATG	.25	.43	-.46
S	.16	.15	-.07
Eigen Value	2.38	1.36	1.22
% of Variance	26.6	15.2	13.5



Factor Pattern of "Second Order" Factor Analysis of Group Task  
Characteristics Variables

Variables	Factors and Loadings		
	1	2	3
CWS	.89	.17	.12
QA	-.09	.80	-.12
TIOAT	-.07	-.05	.62
Unclassified Items			
HW	.42	.12	.02
GPAC	.19	.35	.16
Eigen Value	1.58	1.52	1.00
% of Variance	31.7	23.0	20.0

Factor Pattern of "Second Order" Factor Analysis of Value, Climate and  
Culture Characteristics Variables

Variables	Factors and Loadings		
	1	2	3
GPO	.71	-.08	.09
GMGOA	.70	-.11	.02
HPG	.62	.10	-.12
CFIWS	.07	.73	.07
CFIS	-.06	.52	.02
MADR	.03	-.09	-.82
REENFR	-.00	-.02	-.54
Unclassified Items			
CFTIRR	.00	.42	-.05
ITWG	.37	.07	-.04
Eigen Value	2.35	1.68	1.18
% of Variance	26.2	18.6	13.1

Factor Pattern of "Second Order" Factor Analysis of Group  
Effectiveness Variables

Variables	Factors and Loadings	
	1	2
GL	.57	-.03
JEGL	.71	.14
GR	.56	-.03
GGA	.56	-.03
CVEFW	-.03	.99
Unclassified Items		
QSBFW	-.01	-.16
Eigen Value	2.13	1.59
% of Variance	35.6	19.3

Factor Pattern of "Second Order" Factor Analysis of Organizational  
Effectiveness Variables

Variables	Factor and Loading 1
TB	.82
AI	.79
PIM	.67
PASCC	.66
EDC	.66
Unclassified Items	
Ab	-.29
Eigen Value	2.70
% of Variance	45.0

## Appendix - E

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Intercorrelations, Means, Standard Deviations, Standardized Cronbach's  
Alphas, and Number of Items Pertaining to Variables

	WRA	PJC	JKU	HPI	OSWI	IEI	PCWLC	LIA	PP	FFP	HQPM	UMT	PM	WE
WRA	1.00													
PJC	28	1.00												
JKU	36	26	1.00											
HPI	34	49	32	1.00										
OSWI	25	25	22	45	1.00									
IEI	-32	-28	-31	-42	-35	1.00								
PCWLC	-15	-12	-10	-12	-10	06	1.00							
LIA	-04	-21	-04	-26	-08	15	-15	1.00						
PP	28	36	22	39	18	-38	07	-26	1.00					
FFP	-18	-01	-03	-02	-13	25	28	-08	-09	1.00				
HQPM	-16	-10	02	-14	-10	14	18	03	-04	14	1.00			
UMT	-15	-07	03	-11	-14	05	35	-02	-01	32	39	1.00		
PM	-09	-06	03	-01	-08	12	24	03	-06	19	45	22	1.00	
WE	23	14	09	13	23	-26	-16	00	17	-33	-19	-26	-10	1.00
Sn	09	16	14	28	11	-20	-06	-15	19	-03	-07	-10	02	08
IS	02	03	14	11	-01	02	-07	-06	-06	08	-08	-05	-10	-02
VSRAW	-19	-07	02	-12	-08	08	38	-14	-04	27	32	32	16	-17
VCWP	-09	-05	-05	-16	-05	07	10	02	-09	07	20	16	04	-04
VWP	40	29	35	42	29	-35	-27	-11	27	-26	-14	-24	-15	23
LPPOINT	17	13	23	15	10	-15	11	-32	13	03	12	10	08	18
SHAC	04	-17	05	-03	05	00	03	14	-11	01	00	-02	03	-04
HSOSAR	12	04	20	05	13	-15	-06	-10	07	-09	-01	-03	00	06
SIFAFF	-06	16	-08	14	14	09	-06	09	-01	07	04	07	-01	-02
SKAP	26	23	19	30	26	-18	-10	-12	14	-05	-03	-02	-11	06
ICF	-21	-22	-31	-36	-18	27	02	16	-17	-03	-05	-11	12	-04
UE	-04	02	03	-02	03	-10	33	-24	16	11	19	29	06	-10
IM	-16	-13	-07	-11	-10	08	17	-17	03	06	11	21	-01	-13
AA	04	01	04	01	-07	00	-12	04	01	-05	-03	-08	-09	07
CISSP	-02	-07	04	-13	-06	01	34	-16	05	25	17	34	13	-16
MA	13	17	10	27	20	-19	11	-15	16	-03	06	25	08	11
R	-07	-10	-07	-15	-11	-02	25	-26	-02	09	20	25	09	-11
SCP	02	15	03	14	06	-03	21	-30	24	07	11	27	10	04
PGF	20	20	11	28	20	-26	-07	-20	18	-11	00	-05	-07	11
SA	08	18	13	21	18	-19	07	-15	20	02	00	14	-08	01
TS	27	15	18	21	25	-29	-14	-12	17	-21	00	-09	-03	25
TI	31	12	20	24	17	-26	-12	04	21	-24	-01	-12	-11	16
A	34	24	24	28	22	-34	-07	02	25	-15	00	-07	08	20
SJRT	-03	-06	-10	-09	-06	09	25	-08	08	18	16	20	15	-10
TC	-10	-03	02	-01	-09	04	34	-16	06	27	22	24	26	-10
APO	18	09	08	13	21	-26	12	-27	16	-08	-01	06	-07	03
AR	02	01	04	04	10	-13	17	-22	17	07	11	05	07	-01
EI	35	20	32	42	26	-35	-18	-20	29	-19	-10	-10	-11	14
LV	27	23	17	27	31	-34	-13	01	16	-27	-10	-16	-09	22
VII	13	13	15	01	17	-24	01	-01	10	-21	-05	-02	-07	10
Mean	8.87	8.22	8.19	12.2	8.47	8.69	6.87	5.17	15.9	4.23	10.74	7.61	5.4	8.45
SD	1.14	1.27	1.2	2.1	1.34	2.84	2.74	1.88	2.67	1.98	3.75	2.69	2.15	1.38
Alpha	0.62	0.56	0.62	0.66	0.66	0.64	0.63	0.63	0.22	0.47	0.78	0.7	0.66	0.24
N of item	2	2	2	3	2	4	3	2	5	2	4	3	2	2

appendix - E continues..

	WRA	PJC	JKU	HPI	OSWI	IEI	PCWLC	LIA	PP	FFP	HQPM	UMT	PM	WE
TOR	02	14	-04	22	16	-15	-03	00	05	-02	-01	01	-11	03
CRG	21	13	24	22	30	-28	-16	-12	08	-10	-01	-02	00	11
WU	06	13	11	24	08	-05	-08	-11	10	05	04	-05	21	07
CMM	-08	-07	-01	05	-05	13	06	-02	-04	16	08	08	22	-07
ONV	-05	-01	-02	03	-01	08	02	-01	-01	12	02	02	17	-05
ABV	03	04	-00	-09	-04	-00	10	-07	-02	03	10	19	-02	-03
PCP	-06	00	-03	06	02	09	15	-09	04	16	12	16	22	-07
DE	-00	-11	01	02	-09	09	-02	13	-14	-01	-05	-01	04	-03
CTE	00	-04	06	-10	03	11	12	03	-09	12	17	20	14	-15
NAI	11	08	25	13	05	-21	00	-14	14	-01	04	07	-05	03
EDS	-02	-07	06	00	-04	-09	03	-11	01	-04	-04	-01	-07	-02
SEP	05	-01	04	04	00	-08	-02	07	-07	06	00	03	-10	-03
WDL	25	13	20	09	14	-25	06	-12	15	-11	09	-01	01	11
RAN	21	13	12	16	12	-14	-05	-08	05	-07	03	04	02	09
SAN	00	03	05	-04	11	-07	-02	-10	07	03	03	03	15	01
JPP	28	31	31	29	03	-28	-08	-10	21	-04	-10	03	-03	10
PSA	-09	00	01	01	-01	-00	23	-14	-04	20	06	20	00	-21
CL	09	04	14	01	-08	-04	08	-12	08	12	10	23	05	-03
EWC	11	14	19	09	00	-11	03	-08	08	07	-07	07	-03	11
OS	21	13	15	13	-11	-14	-01	-11	13	08	-05	-05	-06	06
SJPP	-22	-21	-17	-07	03	15	00	-01	-07	08	14	01	10	-03
PSA	-01	04	08	11	10	-01	-12	-04	06	01	16	12	11	12
SCL	05	-00	13	06	-04	00	02	-13	03	15	13	25	12	-06
EWC	-10	-13	-05	-08	00	09	-05	-01	-11	01	17	01	19	-15
SOS	-06	00	08	04	16	01	-03	-07	-00	02	10	03	09	-07
PNS	25	02	10	00	12	-17	-10	-06	-04	-19	-11	-12	-10	12
3PO	08	08	11	07	10	-13	-08	03	09	-04	-04	-04	01	08
GOA	04	09	07	07	06	-12	-10	-05	07	-01	03	03	10	15
RE	05	10	08	09	12	-26	-02	-16	19	-01	-03	-06	03	16
WEG	21	03	19	12	11	-26	-13	-03	21	-19	02	-12	05	22
PGN	13	19	11	20	19	-22	-12	-09	29	-16	-03	-15	01	22
PGN	16	16	04	23	19	-15	-20	-00	16	-14	-01	-11	06	14
PRE	-01	13	08	15	06	-08	02	-09	20	-01	-01	03	-05	10
VMEJ	07	15	02	04	01	-11	-05	-13	17	-04	-01	05	06	12
QA	08	24	19	26	15	-26	-09	-09	29	-07	-06	-10	05	07
SOC	17	10	10	18	08	-14	-11	-01	05	-03	-13	-08	-05	10
S	-06	-01	01	-19	-04	03	17	-08	10	03	02	12	-03	-00
3PAC	-07	00	12	04	-00	-14	-06	01	08	-00	10	12	04	-00
GL	06	14	10	12	12	-16	-06	-06	15	-03	-03	03	06	04
HPG	22	22	11	22	16	-19	-06	-12	28	01	03	-05	-00	19
FWA	09	-03	-01	15	09	02	-03	-05	-09	15	04	12	-16	08
RFLA	-02	04	-01	07	04	02	03	-05	-02	03	14	07	-06	07
ITWG	13	12	11	08	07	-21	00	-08	21	-15	03	-05	07	09
NR	-06	-04	02	00	11	-03	20	-21	03	14	10	24	07	-04
FO	-03	-09	-04	-08	09	-04	12	-15	-02	07	04	09	13	11
GO	-05	01	06	01	08	-02	-05	04	-001	04	08	06	20	05
Mean	8.87	8.22	8.19	12.2	8.47	8.69	6.87	5.17	15.9	4.23	10.74	7.61	5.4	8.45
SD	1.14	1.27	1.2	2.1	1.34	2.84	2.74	1.88	2.67	1.98	3.75	2.69	2.15	1.38
Alpha	0.62	0.56	0.62	0.66	0.66	0.64	0.63	0.63	0.22	0.47	0.78	0.7	0.66	0.24
of item	2	2	2	3	2	4	3	2	5	2	4	3	2	2

	WRA	PJC	JKU	HPI	OSWI	IEI	PCWLC	LIA	PP	FFP	HQPM	UMT	PM	WE
SF	-01	-01	12	05	02	-04	00	-03	07	02	02	07	21	04
FB	-02	03	04	08	05	03	05	-02	-00	09	05	07	15	01
GGC	00	05	07	01	03	03	-02	05	02	09	09	12	22	01
QC	00	03	08	03	03	07	-05	15	-06	05	05	-01	20	-03
MS	02	-01	00	-02	04	07	-03	08	03	01	02	-02	18	09
TLS	08	12	14	18	18	-14	-10	06	11	-08	03	-06	20	16
NWN	-03	-05	-03	-10	-02	-05	23	-19	-03	11	16	23	05	-10
WP	-09	-05	04	03	16	-02	14	01	-04	13	10	20	10	-10
TCWC	-08	-04	08	-08	-09	03	-14	13	-01	-05	01	-05	-01	-14
ERS	00	05	12	07	01	01	-03	01	-01	06	01	09	04	-05
ILC	02	03	10	-07	-07	-02	-03	-08	04	-01	-04	09	02	01
ELC	03	07	05	06	08	-13	12	-20	09	06	04	18	01	-05
SMLOC	06	09	02	01	-00	-11	05	-14	12	06	08	12	06	-04
JA	-07	-13	03	-07	-11	-01	08	03	-04	17	00	11	08	-01
LOV	-14	06	03	00	-00	-07	08	-03	-03	09	05	12	15	-09
AI	-11	-10	-01	-02	01	15	-06	16	-11	11	11	07	13	-08
PIM	-08	-07	-01	-02	-03	11	05	-03	-06	15	13	13	20	-06
Ab	05	03	14	06	00	-09	02	-01	16	-04	05	-05	00	07
PASCC	-03	-11	-08	-01	06	-02	03	-02	-04	03	05	08	10	-10
PI	-10	04	-02	-01	02	05	-05	11	00	11	10	05	10	-04
TB	-04	-00	09	03	03	-03	04	08	-06	04	06	04	30	-01
F	07	08	10	03	06	-03	04	-06	-01	14	11	07	02	-09
B	22	03	28	26	25	-11	-03	01	08	-03	08	-02	13	08
FIFPG	-08	-01	-02	-07	-03	04	09	-03	-03	17	14	20	15	-12
CATG	01	03	04	-02	05	-02	03	01	10	05	09	04	22	05
3S	09	02	10	16	08	01	02	-05	-03	-05	-07	-04	04	07
PN	-06	-18	-02	-27	-11	00	29	-05	-00	11	16	21	-01	-09
JVS	06	04	-05	02	06	06	08	-10	-06	16	13	08	-06	-07
HW	02	03	14	07	05	-05	01	10	08	-01	-06	-02	12	03
JEGL	08	-03	15	02	10	-04	06	04	10	07	06	08	09	-03
GR	-05	-04	07	01	11	04	05	-07	-00	05	14	07	20	03
TIOAT	-07	-09	-05	-11	-07	-00	15	-08	-08	09	12	20	08	-10
GAR	-05	-06	07	-05	-02	08	15	01	-07	15	14	20	17	-13
GGA	11	04	18	08	05	-15	03	05	08	02	01	08	13	10
REENFR	-05	00	04	01	06	-07	03	-01	02	13	17	14	-00	-01
MADR	11	05	21	04	09	-24	-03	01	06	-12	04	00	00	19
CVEFW	22	07	16	05	06	-09	04	-01	09	-11	-07	-08	-09	01
QSBFW	-10	-19	-03	-18	-14	02	12	01	-07	05	02	08	03	-09
OC	23	06	23	18	23	-20	04	02	15	-09	-00	-08	04	13
EDC	-00	06	12	14	14	-08	04	11	-06	10	07	08	19	06
IE	33	20	31	20	21	-31	-03	-19	18	-12	03	03	-02	12
GE	09	08	18	10	14	-13	01	-03	14	01	03	07	14	05
OE	-08	-07	-07	-03	02	09	-00	07	-16	10	04	09	16	-08
SF1	-06	-05	00	-11	-04	-06	39	-29	10	17	24	37	12	-15
SF2	-14	-24	-11	-28	-19	21	-09	30	-27	03	-05	-14	01	-09
SF3	39	23	26	31	27	-38	-13	-03	27	-24	00	-11	-00	25
Mean	8.87	8.22	8.19	12.2	8.47	8.69	6.87	5.17	15.9	4.23	10.74	7.61	5.4	8.45
SD	1.14	1.27	1.2	2.1	1.34	2.84	2.74	1.88	2.67	1.98	3.75	2.69	2.15	1.38
Alpha	0.62	0.56	0.62	0.66	0.66	0.64	0.63	0.63	0.22	0.47	0.78	0.7	0.66	0.24
N of item	2	2	2	3	2	4	3	2	5	2	4	3	2	2

appendix - E continued..

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	WRA	PJC	JKU	HPI	OSWI	IEI	PCWLC	LIA	PP	FFP	HQPM	UMT	PM	WE
SF4	34	24	31	34	38	-42	-18	-11	20	-26	-08	-10	-08	20
SF5	02	16	08	13	05	-11	-00	-12	22	-02	-02	04	-02	12
SF6	04	06	09	08	10	-02	-06	09	05	00	05	-01	23	08
SF7	-04	-02	01	-00	03	12	17	-05	-02	17	17	22	23	-12
SF8	-02	02	05	15	01	05	-01	-07	03	12	07	02	23	-01
SF9	-01	-02	-02	-11	-03	-04	22	-17	-03	10	16	25	03	-08
SF10	18	11	12	12	14	-14	-05	-10	06	-05	04	04	07	08
SF11	-10	-08	02	-02	10	06	-05	-05	-07	01	16	02	17	-14
SF12	14	20	10	22	21	-24	-14	-09	29	-15	-04	-15	03	23
SF13	14	07	19	13	14	-07	02	-05	02	09	12	04	07	-04
SF14	16	18	12	17	14	-19	-10	-07	20	-01	01	-03	04	18
SF15	12	-01	17	07	-01	00	11	-00	10	09	-04	08	-07	-04
SF16	-00	-02	-11	-02	-08	14	-01	02	-04	-06	-15	-11	00	-06
SF17	07	08	16	10	14	-13	00	-03	13	02	03	08	15	05
SF18	-08	-07	03	02	04	05	02	09	-10	12	12	10	25	-06
SFF1	08	04	10	08	16	-07	-07	-10	00	-03	13	05	15	-02
Mean	8.87	8.22	8.19	12.2	8.47	8.69	6.87	5.17	15.9	4.23	10.74	7.61	5.4	8.45
SD	1.14	1.27	1.2	2.1	1.34	2.84	2.74	1.88	2.67	1.98	3.75	2.69	2.15	1.38
Alpha	0.62	0.56	0.62	0.66	0.66	0.64	0.63	0.63	0.22	0.47	0.78	0.7	0.66	0.24
N of item	2	2	2	3	2	4	3	2	5	2	4	3	2	2

appendix - E continues..



	Sn	IS	VSRAW	VCWP	WVP	LPPOINT	SHAC	HSOSAR	SIFAPP	SKAP	ICF	UE	IM	AA
Sn	1.00													
IS	37	1.00												
VSRAW	-10	03	1.00											
VCWP	-10	-07	31	1.00										
WVP	15	09	-19	-10	1.00									
LPPOINT	16	13	26	13	08	1.00								
SHAC	06	-06	06	-01	-03	05	1.00							
HSOSAR	-01	00	-03	07	11	05	16	1.00						
SIFAPP	02	-03	07	-03	-07	-02	09	08	1.00					
SKAP	04	05	-14	03	24	14	02	39	07	1.00				
ICF	-02	-12	03	06	-21	-12	04	-18	-11	-28	1.00			
UE	12	-06	28	13	-14	18	-04	04	-01	-06	-03	1.00		
IM	-05	-03	22	12	-15	05	-08	03	00	-11	-01	31	1.00	
AA	-01	-02	-12	-06	07	-05	04	01	13	1	-16	-26	-05	1.00
CISSP	-08	-03	24	07	-07	16	-08	-02	-07	-05	-05	40	28	-12
MA	07	-02	07	04	14	16	-08	07	14	16	-15	26	01	-20
R	-02	-03	38	20	-12	15	01	14	-06	-12	-02	41	36	-19
SCP	-06	-01	14	20	08	11	-12	06	02	09	-16	07	02	-05
PGF	01	04	-12	04	22	02	-02	15	-02	32	-28	-13	-15	04
SA	02	06	-00	06	18	-00	-20	09	02	26	-17	02	-03	-11
TS	12	06	-15	01	30	12	-01	02	-03	26	-13	-16	-22	-02
TI	07	-00	-19	-03	30	01	-02	05	04	24	-29	-12	-19	18
A	09	-02	-06	01	34	12	-05	08	-06	25	-19	-07	-17	-01
SJRT	-01	-18	14	06	-15	06	10	01	09	07	12	29	06	-00
TC	-02	-10	37	05	-13	25	-07	-00	03	-07	02	36	16	-16
AP0	15	01	17	04	10	23	09	19	00	17	-15	23	16	01
AR	-02	-02	16	19	11	13	-03	10	-03	15	-03	06	12	-02
EI	07	12	-09	-10	39	13	00	22	-02	25	-37	01	-04	-05
LV	-04	01	-11	01	25	11	-02	12	02	31	-27	-07	-14	-03
VII	-12	05	08	04	11	16	04	12	-11	24	-19	03	-06	-11
ICTOR	05	13	06	03	12	-11	-03	03	11	13	-25	-09	-03	08
CRG	05	19	-00	01	17	19	09	19	03	25	-35	-09	01	12
FCWU	04	11	01	-10	24	14	03	04	06	20	-21	-22	-02	07
CMM	-10	12	15	-03	06	03	03	05	05	10	-16	-28	03	04
PERSONV	02	11	08	-05	05	-04	02	03	02	11	-09	-30	-05	-03
ABV	-05	-05	17	03	-11	20	-08	-04	01	-05	03	22	07	09
RCPCP	-09	-04	14	01	00	13	-13	-07	10	00	-11	07	-00	01
DE	-07	13	-04	-03	05	-07	-09	-03	-06	04	-14	-24	08	04
NRCTE	-08	-13	08	09	-01	-02	02	04	-03	-00	08	03	-15	-02
NAI	13	11	09	14	16	16	03	18	-07	20	-22	11	-03	04
SCEDS	06	07	06	-01	09	08	-01	12	-02	09	03	12	-04	02
SEP	09	09	-03	-01	07	-04	-00	04	06	09	-08	15	-08	02
PACWDL	05	05	00	-01	21	15	05	14	-00	23	-21	-03	-13	04
FRAN	-06	07	-01	-09	17	22	-08	11	03	13	-22	-19	-01	04
FSAN	-08	10	07	-06	-02	10	-00	07	01	11	-10	-10	01	-05
JPP	-01	03	-07	04	22	15	-09	15	-09	22	-20	-00	-03	-03
Mean	6.77	11.11	3.94	6.36	8.77	6.69	9.62	24.09	9.31	25.21	7.53	10.41	9.11	6.28
SD	2.49	2.68	2.02	1.85	1.28	1.78	1.49	2.76	2.05	2.43	2.37	3.85	3.17	1.86
Alpha	0.91	0.79	0.75	0.63	0.63	0.61	0.31	0.56	0.59	0.7	0.79	0.78	0.71	0.49
N of item	2	3	2	2	2	2	2	2	2	2	3	4	4	2

	Sn	IS	VSRAW	VCWP	VWP	LPPOINT	SHAC	HSOSAR	SIFAFP	SKAP	ICF	UE	IM	AA
OPSA	03	07	24	01	-05	07	-01	-01	07	-01	-13	18	12	01
CL	06	07	13	11	-00	15	03	14	05	02	-12	21	17	09
EWC	-04	-01	02	05	11	03	-10	17	-02	18	-24	04	-07	05
OS	03	12	04	03	10	-02	-00	08	-02	10	-23	03	-03	-01
SJPP	08	00	17	-01	-07	-04	06	-02	19	-10	07	-08	04	06
SOPSA	00	-08	03	09	07	12	06	-03	03	-05	-07	10	04	-11
SCL	11	11	15	13	01	13	05	12	05	-01	-17	17	17	01
SEWC	-04	05	08	05	-06	07	08	-02	07	-08	09	-10	10	-00
SOS	-07	-07	02	03	05	20	-07	-03	01	06	-06	-05	05	02
PNS	-00	15	-04	09	14	08	10	22	-18	05	01	09	-07	-03
GPO	02	13	-01	-05	13	13	-03	19	06	33	-20	-08	-13	04
GMGOA	-03	04	03	-09	22	18	-01	15	08	16	-15	-17	-06	12
RE	06	-01	05	02	17	08	08	18	-01	16	-18	08	-02	-07
HWEG	-06	-12	-11	-07	15	10	05	09	-04	12	-15	-05	-12	02
EPGN	04	-15	-12	-09	18	04	00	07	03	25	-17	-12	-08	01
SPGN	13	-01	-13	-05	15	01	09	07	05	23	-14	-11	-12	-02
PRE	04	-05	-09	-10	07	-03	03	-06	-01	15	-29	-13	-04	07
EPWMEJ	-06	08	-08	-08	03	18	02	10	-09	17	-19	-12	04	01
QA	19	-02	00	-12	21	03	00	10	05	18	-25	-07	-10	01
SOC	02	13	-11	-03	12	07	-02	13	02	12	-07	-06	-02	07
S	-14	-02	07	06	-11	04	-06	04	-13	04	-05	04	16	01
GPAC	03	07	05	04	-01	-02	01	05	-03	11	-24	-02	04	-00
GL	-01	-05	08	-03	14	10	02	01	06	16	-20	-05	-05	-02
HPG	-03	03	-01	-05	21	20	-04	11	04	26	-31	-07	-10	03
IPRFLA	-01	08	00	06	07	03	00	05	10	07	-19	09	08	05
IPRFLA	-03	-01	24	08	08	13	01	-01	05	-02	-05	09	15	-08
ITWG	-05	-03	-07	-05	16	-03	-01	11	-01	19	-14	-12	-05	03
NR	-06	-05	23	01	00	11	05	11	13	08	-19	16	14	02
FO	-06	-01	20	14	03	13	-04	01	-05	08	-04	11	04	-18
GO	-10	04	05	01	09	-00	02	09	02	20	-17	-23	05	-04
SF	-02	09	08	-08	17	-02	01	09	-03	13	-22	-11	-01	-01
FB	-12	-03	10	-08	13	-04	-06	-02	04	16	-17	-23	-01	03
GGC	-13	-00	09	-04	14	-03	02	07	08	22	-17	-21	-06	-05
QC	-11	02	01	-03	13	-13	05	02	02	15	-07	-35	-03	01
MS	-14	02	-03	-05	12	-07	02	09	-02	17	-04	-31	-07	-09
TLS	-12	-09	-04	-04	24	-06	09	17	12	17	-12	-18	-07	-04
NWN	04	-08	38	22	-16	16	03	-02	-02	-16	-01	50	13	-15
WP	-10	05	15	-00	02	01	03	07	21	08	-11	05	10	02
TCWC	-05	05	-08	-02	05	-15	-06	04	-04	16	-08	-15	07	-12
ERS	-11	10	08	01	15	03	06	14	02	12	-17	-14	03	-08
ILC	-01	02	12	00	-01	08	-02	07	-04	02	-01	-03	03	01
ELC	02	-00	19	02	09	02	09	25	07	13	-11	11	10	-13
SMLOC	-03	-02	15	-08	05	-02	-03	03	07	05	-13	03	03	-08
JA	-05	09	19	-03	01	07	04	-12	02	-06	-08	-04	02	06
LOV	-11	-01	10	-04	-01	-06	09	14	11	13	-18	-11	16	03
AI	-16	11	08	06	05	-11	04	02	10	10	-10	-17	08	-03
Mean	6.77	11.11	3.94	6.36	8.77	6.69	9.62	24.09	9.31	25.21	7.53	10.41	9.11	6.28
SD	2.49	2.68	2.02	1.85	1.28	1.78	1.49	2.76	2.05	2.43	2.37	3.85	3.17	1.86
Alpha	0.91	0.79	0.75	0.63	0.63	0.61	0.31	0.56	0.59	0.7	0.79	0.78	0.71	0.49
N of item	2	3	2	2	2	2	2	2	2	2	3	4	4	2

	Sn	IS	VSRAW	VCWP	VWP	LPPOINT	SHAC	HSOSAR	SIFAFP	SKAP	ICF	UE	IM	AA
PIM	-01	-01	12	-05	04	06	16	-02	06	02	-01	-13	03	-00
Ab	01	-09	04	-07	-08	08	04	04	-09	-05	-05	14	-09	12
PASCC	-00	08	11	-07	05	-02	17	07	14	09	-08	-01	06	04
PI	-05	04	14	13	04	-04	-03	03	13	-00	-05	-16	03	01
TB	-14	-02	02	-02	08	-08	05	14	04	13	-13	-20	01	-09
F	-08	-03	22	08	07	09	10	19	17	06	-15	08	07	02
B	-06	10	-02	-11	18	15	07	17	05	17	-20	-03	-02	-05
FIFPG	-06	-04	17	00	04	04	-01	-02	05	-04	-02	05	11	07
CATG	-12	-11	08	01	08	-09	07	11	07	06	-03	02	-01	05
GS	05	21	-04	04	13	11	-02	06	05	12	-01	-06	01	-03
PN	02	00	29	11	-14	12	00	03	-09	-05	03	31	10	-06
CWS	-09	-07	21	13	04	06	02	-00	07	-01	-08	12	07	-03
HW	-01	08	-07	-08	13	-02	-05	05	08	07	01	-18	-01	-01
JEGL	-06	09	12	-06	09	03	-03	10	-01	18	-18	-07	01	-03
GR	-05	12	10	-03	09	18	-01	03	01	09	-15	-03	07	-04
TIOAT	-06	-00	32	13	-16	06	-03	-08	00	-14	13	14	17	-15
GAR	-22	02	25	05	-03	05	10	-01	02	01	-12	01	19	-07
GGA	-04	-02	13	-01	12	07	07	08	-03	08	-10	-06	-08	-07
REENFR	-17	-05	07	03	00	-02	-01	14	-00	14	-15	-00	03	00
MADR	-06	04	-06	01	15	-03	-06	13	-06	10	-14	-12	-11	03
CVEFW	01	00	-07	01	22	-02	-09	04	02	23	-23	04	-07	-02
QSBFW	-03	-01	28	08	-22	12	11	04	-03	-19	07	17	14	14
OC	13	12	-07	-02	17	04	09	04	-07	11	-23	-02	-12	14
EDC	-01	04	06	04	12	03	04	08	00	17	-11	-24	-10	14
IE	04	12	-01	04	27	24	07	49	-01	52	-34	-02	-08	03
GE	-04	03	12	-04	17	12	01	07	02	20	-24	-07	-03	-05
OE	-08	09	04	04	10	-08	05	02	12	12	-05	-23	09	-11
SF1	04	-05	38	18	-15	21	-03	07	-05	-10	-04	86	40	-26
SF2	02	-04	-00	-13	-21	-06	12	-14	-00	-30	28	03	08	03
SF3	12	01	-15	-00	38	12	-04	07	-03	32	-24	-13	-24	04
SF4	00	14	-05	-01	31	21	05	23	-00	36	-42	-07	-07	01
SF5	00	-00	-10	-11	07	05	03	-00	-05	18	-30	-15	-02	05
SF6	-14	-03	00	-05	19	-08	05	12	07	20	-12	-29	-07	-05
SF7	-10	-09	14	05	-00	08	-08	-03	06	-00	-04	07	-07	-00
SF8	-04	13	09	-07	15	09	03	05	06	16	-20	-27	01	06
SF9	01	-08	36	18	-17	20	-01	-03	-01	-15	01	48	13	-08
SF10	-07	09	02	-10	14	21	-07	12	03	14	-21	-19	-00	02
SF11	-07	-01	06	05	-01	17	01	-03	05	-01	02	-10	10	01
SF12	07	-12	-11	-07	20	05	04	11	03	27	-19	-10	-09	-01
SF13	-09	02	17	02	13	13	11	22	16	12	-20	05	05	00
SF14	-02	08	00	-08	24	22	-03	18	07	31	-29	-13	-12	07
SF15	-10	-04	10	09	00	07	02	-08	01	-05	-12	08	-03	05
SF16	15	03	-04	-03	-06	02	03	-16	03	-14	17	04	01	-01
SF17	-04	02	13	-04	16	13	02	06	02	18	-22	-07	-03	-05
SF18	-10	05	10	-01	08	-04	12	07	10	13	-12	-21	04	-05
SFF1	-10	07	05	-05	10	26	-05	07	05	10	-15	-20	05	02
Mean	6.77	11.11	3.94	6.36	8.77	6.69	9.62	24.09	9.31	25.21	7.53	10.41	9.11	6.28
SD	2.49	2.68	2.02	1.85	1.28	1.78	1.49	2.76	2.05	2.43	2.37	3.85	3.17	1.86
Alpha	0.91	0.79	0.75	0.63	0.63	0.61	0.31	0.56	0.59	0.7	0.79	0.78	0.71	0.49
Nof item	2	3	2	2	2	2	2	2	2	2	3	4	4	2

	CISSP	MA	R	SCP	PGF	SA	TS	TI	A	SJRT	TC	APO	AR	EI
CISSP	1.00													
MA	18	1.00												
R	39	20	1.00											
SCP	16	29	25	1.00										
PGF	-08	21	02	26	1.00									
SA	08	33	07	38	38	1.00								
TS	-07	13	-13	20	34	32	1.00							
TI	-08	10	-13	04	27	15	37	1.00						
A	-04	30	-16	20	32	29	47	49	1.00					
SJRT	19	-01	16	24	10	07	-03	-03	03	1.00				
TC	30	22	31	19	-11	-02	-18	-12	-04	28	1.00			
APO	11	17	27	13	20	20	19	11	19	14	08	1.00		
AR	29	15	25	22	24	24	19	01	16	10	19	19	1.00	
EI	-04	17	-01	16	25	21	31	31	37	-04	-01	32	06	1.00
LV	-12	20	-17	06	42	20	21	25	40	-00	-06	13	19	38
VII	-03	20	-04	04	20	19	13	12	25	00	01	15	12	24
ICTOR	-18	11	-08	09	17	04	07	19	08	-18	-06	07	-06	14
CRG	-06	09	00	10	40	11	38	17	31	-08	-12	22	10	32
FCWU	-01	01	-11	17	20	01	18	10	24	05	00	-06	13	16
CMM	04	-02	01	20	10	02	10	01	10	-04	06	-09	14	-01
PSONV	03	-05	02	18	13	02	13	05	12	-04	-00	-06	1	-03
ABV	13	12	10	02	03	-02	-16	05	-07	09	21	-06	00	
RCPCP	13	17	05	13	-03	02	-05	-07	-01	01	27	-16	11	
DE	-04	-18	-06	-05	00	-13	02	-01	-02	-20	-07	-10	-09	
NRCTE	05	07	04	21	03	09	-02	-05	00	12	14	-08	-05	-08
NAI	11	11	10	16	30	30	15	09	16	14	10	10	19	17
SCEDS	-06	04	-00	-00	-10	-05	-07	-0	-09	01	10	05	-06	06
SEP	-03	12	02	01	-00	-02	-08	14	-01	07	09	-03	-06	-00
SPACWDL	02	-04	01	19	36	26	27	21	31	04	-02	13	15	22
FRAN	-06	02	-02	10	21	09	27	27	23	-07	-03	10	01	26
FSAN	-02	02	08	08	09	14	21	02	11	-01	-09	10	02	11
JPP	-01	16	-04	22	28	19	24	21	33	06	05	06	12	33
OPSA	12	08	14	12	00	10	-03	-04	02	13	21	21	17	04
CL	24	07	16	07	07	08	01	05	10	14	05	09	17	15
EWC	08	12	07	18	22	16	11	15	12	00	08	05	09	10
OS	08	02	08	17	30	22	21	13	18	10	-03	01	09	14
SJPP	-01	-08	08	-08	-10	-19	-10	-12	-18	-02	08	01	-04	-21
SOPSA	15	12	07	03	-02	-08	08	00	-04	01	08	-00	01	-01
SCL	18	11	19	12	05	04	01	04	11	12	07	11	12	13
SEWC	01	-06	-03	-01	-13	-07	01	-08	02	00	05	-02	04	-06
SOS	06	02	-06	-04	-14	-10	-03	-02	03	-06	02	-02	03	-02
PNS	-04	03	17	08	13	09	09	14	10	08	-03	19	05	26
GPO	-00	-03	-07	11	20	14	16	13	26	11	-07	11	09	21
GMGOA	01	-03	-00	09	21	02	09	11	18	03	-01	-01	05	05
RE	01	07	13	03	22	14	15	13	08	10	06	19	13	16
HWEG	-05	01	-04	02	23	09	28	29	29	10	-11	12	02	28
Mean	5.16	6.85	15.87	16.7	30.32	10.71	12.52	7.82	19.47	9.74	12.48	10.52	7.2	11.85
SD	1.99	1.63	3.98	3.82	4.42	2.09	2.12	1.54	3.04	2.64	4.2	2.22	1.59	1.88
Alpha	0.65	0.73	0.68	0.8	0.81	0.71	0.76	0.66	0.81	0.74	0.77	0.65	0.57	0.62
Nof item	2	2	3	5	8	3	3	2	5	3	5	3	2	3

	CISSP	MA	R	SCP	PGF	SA	TS	TI	A	SJRT	TC	APO	AR	EI
EPGN	-03	02	-11	04	31	12	18	17	25	03	-12	03	04	10
SPGN	-09	05	-10	01	29	05	18	20	20	-02	-20	-00	-02	15
PRE	-05	09	-10	08	18	12	15	16	16	-04	-02	-06	08	07
EPWMEJ	-02	03	-10	05	14	02	08	05	19	-09	-04	-00	08	07
QA	02	-01	-10	11	21	10	14	13	32	03	-10	04	05	20
SOC	-06	-04	-08	-12	20	01	08	09	13	-05	-12	05	-01	10
S	18	-03	15	11	03	00	-03	-07	-03	-10	04	09	18	-06
GPAC	06	-08	-02	10	16	11	16	09	12	-02	-15	09	-08	08
GL	08	01	-05	17	18	08	18	07	23	14	-01	06	-01	16
HPG	07	10	-00	21	34	23	28	26	41	04	-06	08	14	23
IPRFWA	09	07	05	08	08	04	00	14	04	04	00	11	-16	14
IPRFLA	16	06	22	12	04	03	02	-05	01	03	08	07	07	11
ITWG	01	03	-01	13	26	17	26	13	21	-03	-14	-07	08	17
NR	29	04	28	17	03	09	-03	-03	-02	14	14	20	25	01
FO	18	05	21	18	10	05	05	-05	08	16	14	01	18	04
GO	07	04	-02	15	15	03	09	05	20	05	08	-12	11	11
SF	16	03	06	14	07	04	13	05	18	-04	03	-05	07	13
FB	11	01	-01	20	06	07	12	08	15	-03	08	-13	13	05
GGC	14	08	01	20	07	04	12	14	25	03	07	-09	11	12
QC	05	-08	-07	11	07	-05	14	10	18	03	-01	-15	10	05
MS	02	-03	-09	15	03	01	19	05	16	01	-07	-10	08	06
TLS	03	04	-06	15	17	08	19	20	29	01	-02	-07	07	23
NWN	24	16	32	-04	-03	06	-18	-13	-14	19	31	22	14	-03
WP	10	11	06	06	10	04	-07	04	-01	17	25	-01	12	01
TCWC	-03	-01	-01	-05	18	12	05	11	12	-05	-03	-05	04	03
ERS	07	06	06	22	18	13	01	10	13	05	09	-05	09	08
ILC	17	-02	11	05	02	05	-05	00	-01	-01	01	11	13	01
ELC	11	12	11	15	14	16	-04	-01	07	13	08	15	14	13
SMLOC	15	07	07	10	01	01	-01	-03	04	03	-01	05	09	10
JA	13	-02	05	-04	-06	-11	-09	-12	-07	-08	15	-07	09	-12
LOV	11	-03	11	18	07	00	01	06	03	03	06	-04	17	06
AI	07	-06	-06	13	14	-02	-04	-03	09	05	07	-17	12	-02
PIM	12	02	04	06	02	-10	01	-07	02	12	10	-07	05	-10
Ab	04	05	-03	-02	-02	-03	03	16	09	-02	09	13	02	01
PASCC	19	02	07	02	14	-04	00	-01	07	10	11	08	20	08
PI	09	01	-04	18	04	07	02	-00	14	05	08	-09	08	06
TB	09	07	-05	18	08	00	09	05	18	01	04	-11	10	07
F	16	05	09	09	00	-03	00	08	17	06	18	01	08	
B	-00	11	-14	14	08	02	19	13	26	04	02	04	06	
FIFPG	22	15	12	00	00	01	-10	-10	-03	09	28	-05	11	
CATG	11	05	03	12	07	06	05	03	14	15	07	01	12	-02
GS	-01	06	-07	05	08	09	12	15	09	-07	-12	02	00	04
PN	30	04	30	-01	-07	01	-09	-11	-08	16	31	08	21	-12
CWS	18	01	11	08	00	-03	-02	04	11	09	17	07	08	14
HW	-06	01	-15	03	09	04	10	09	11	02	01	-01	07	05
JEGL	08	-05	-09	09	14	11	11	14	24	01	09	-07	02	16
Mean	5.16	6.85	15.87	16.7	30.32	10.71	12.52	7.82	19.47	9.74	12.48	10.52	7.2	11.85
SD	1.99	1.63	3.98	3.82	4.42	2.09	2.12	1.54	3.04	2.64	4.2	2.22	1.59	1.88
Alpha	0.65	0.73	0.68	0.8	0.81	0.71	0.76	0.66	0.81	0.74	0.77	0.65	0.57	0.62
Nof item	2	2	3	5	8	3	3	2	5	3	5	3	2	3

	CISSP	MA	R	SCP	PGF	SA	TS	Ti	A	SJRT	TC	APO	AR	EI
GR	14	08	03	18	03	06	14	01	09	-03	14	-13	14	05
TIOAT	18	15	20	11	-10	05	05	-15	-02	03	26	05	07	02
GAR	28	11	13	19	08	01	00	-04	09	04	14	-09	21	-00
GGA	09	01	-00	03	07	05	08	11	23	05	05	05	02	08
REENFR	14	12	06	08	10	16	11	09	18	-03	12	-04	22	04
MADR	-06	02	-07	00	22	12	13	27	25	-18	-08	-04	01	20
CVEFW	-01	05	-07	-01	15	09	06	18	09	-13	-07	02	00	15
QSBFW	20	03	16	-12	-21	-28	-16	-20	-13	05	24	04	02	-04
OC	-02	-02	-11	00	13	07	18	10	21	-03	-08	01	-03	21
EDC	-01	07	-07	18	24	14	23	15	22	04	03	03	02	04
IE	01	09	07	22	44	34	34	29	36	08	-03	24	19	40
GE	12	01	-06	18	18	12	20	12	29	07	06	-01	04	18
OE	06	-01	00	12	12	01	02	-09	04	06	00	-15	08	00
SF1	68	29	75	19	-08	06	-17	-14	-11	29	42	27	22	-01
SF2	-05	-35	-15	-74	-80	-67	-38	-22	-36	-20	-02	-23	-31	-28
SF3	-07	25	-18	20	39	33	76	71	89	-00	-13	21	16	42
SF4	-10	21	-08	12	48	23	39	29	47	-05	-09	28	17	63
SF5	-05	08	-11	08	20	10	15	14	20	-06	-03	-05	10	08
SF6	06	01	-07	18	11	03	19	15	26	02	-01	-11	10	15
SF7	12	10	05	19	-00	06	-05	-02	-01	06	26	-16	05	-08
SF8	02	-01	-05	20	16	02	15	05	18	00	04	-08	15	07
SF9	24	17	29	-03	-01	04	-20	-08	-13	19	32	15	11	-03
SF10	-06	02	01	11	20	13	30	23	23	-06	-06	12	01	26
SF11	04	-03	-05	-03	-16	-10	-01	-06	03	-04	05	-02	05	-05
SF12	-04	04	-08	04	34	13	21	20	25	04	-12	06	05	15
SF13	13	08	02	13	03	-02	08	11	24	06	15	02	09	18
SF14	04	03	-03	18	33	18	23	22	37	07	06	08	12	21
SF15	01	09	-02	05	-02	07	06	12	11	-02	-04	-00	-05	14
SF16	-09	-11	-02	-06	-16	-17	-14	-17	-23	09	-07	05	-17	-10
SF17	13	02	-04	18	16	10	19	10	28	09	07	-00	05	17
SF18	13	02	-02	15	16	-02	06	01	15	09	10	-09	14	01
SFF1	-02	00	-02	06	05	04	22	14	19	-07	-02	08	04	17
Mean	5.16	6.85	15.87	16.7	30.32	10.71	12.52	7.82	19.47	9.74	12.48	10.52	7.2	11.85
SD	1.99	1.63	3.98	3.82	4.42	2.09	2.12	1.54	3.04	2.64	4.2	2.22	1.59	1.88
Alpha	0.65	0.73	0.68	0.8	0.81	0.71	0.76	0.66	0.81	0.74	0.77	0.65	0.57	0.62
Nof item	2	2	3	5	8	3	3	2	5	3	5	3	2	3

	LV	VII	ICTOR	CRG	FCWU	CMM	PSONV	ABV	RCPCP	DE	NRCTE	NAI	SCEDS	SEP
LV	1.00													
VII	44	1.00												
ICTOR	22	09	1.00											
CRG	36	30	23	1.00										
FCWU	21	10	12	32	1.00									
CMM	01	07	12	21	70	1.00								
PSONV	-00	09	08	20	63	84	1.00							
ABV	03	05	-06	-04	-24	-28	-37	1.00						
RCPCP	-03	09	02	-04	12	23	19	03	1.00					
DE	-02	-05	11	10	32	45	46	-40	08	1.00				
NRCTE	-01	02	-02	-11	08	10	15	08	33	-03	1.00			
NAI	19	16	08	19	06	00	-00	09	-03	-15	13	1.00		
SCEDS	-06	-04	-05	-02	-03	-01	-11	06	08	-01	05	-03	1.00	
SEP	01	-08	05	-04	-14	-14	-16	04	02	-05	05	03	30	1.00
SPACWDL	33	22	04	22	13	10	08	05	-00	00	14	31	-08	-13
FRAN	24	16	16	33	42	32	28	-05	16	24	07	10	00	-00
FSAN	08	22	08	32	25	26	21	-16	00	09	03	22	-09	-13
JPP	30	16	04	14	13	02	01	01	-06	-01	03	32	-06	00
OPSA	-01	08	03	02	02	01	-03	06	10	-00	-01	-01	01	-00
CL	09	01	-17	01	-05	-08	-11	09	-03	-04	04	23	-01	01
EWC	16	12	10	09	14	15	12	06	-04	02	11	31	-05	01
OS	19	11	04	11	11	11	07	-04	00	04	07	39	01	03
SJPP	-23	-18	-03	-04	13	26	20	-07	11	10	-01	-26	13	01
SOPSA	-03	-15	-04	01	06	05	-00	-00	13	-03	07	07	-07	-02
SCL	01	-02	-12	01	02	03	-01	-01	02	02	03	13	-04	04
SEWC	-07	01	-08	09	26	24	21	-13	16	05	-00	-15	04	-07
SOS	-03	-01	00	06	16	09	04	-02	07	07	-13	-21	-05	-07
PNS	25	18	-04	19	-08	-10	-04	05	-12	-06	05	26	12	07
GPO	33	25	08	33	41	28	28	-03	05	07	12	22	04	-03
GMGOA	15	10	-01	29	46	44	35	-10	14	17	08	18	04	-02
RE	23	22	07	28	30	19	17	-08	05	-03	-06	14	05	-12
HWEG	30	22	01	27	29	11	09	02	-03	-02	-04	19	-02	-04
EPGN	29	15	05	24	33	23	22	-13	05	04	-03	21	-09	-11
SPGN	21	09	05	28	26	13	17	-01	06	-04	-01	16	-04	-08
PRE	19	12	10	12	34	32	30	-11	10	09	04	16	-03	-11
EPWMEJ	17	19	05	13	31	37	28	-07	17	11	-02	02	00	-11
QA	25	12	05	29	43	28	27	-10	10	07	03	19	01	-09
SOC	17	03	02	18	10	-06	-08	-07	-09	11	03	05	-00	-05
S	-03	05	-00	-04	07	24	16	-01	14	11	06	-02	-04	-07
GPAC	05	07	05	33	26	20	25	-18	-03	23	03	19	-02	-09
GL	21	13	00	26	44	39	40	-19	16	16	09	12	01	-11
HPG	30	18	-00	30	39	26	23	-01	08	02	-00	24	-09	-07
IPRFLA	00	-15	17	03	-01	-03	-04	04	-03	04	-01	-06	-02	12
IPRFLA	01	01	-03	09	08	08	09	-06	04	03	02	07	04	-02
ITWG	22	22	01	26	31	16	21	-08	11	01	09	19	02	-10
NR	02	06	-01	09	02	17	08	08	18	-08	00	06	03	-04
Mean	20.4	7.96	7.33	22.2	28.58	23.67	28.4	10.56	8.03	6.02	5.78	10.71	23.79	19.52
SD	2.83	1.42	1.37	3.58	5.89	6.76	7.18	2.1	2.81	1.32	1.89	2.19	3.57	2.81
Alpha	0.78	0.62	0.4	0.79	0.88	0.87	0.87	0.25	0.72	-0.82	0.57	0.68	0.73	0.67
Nof item	5	2	2	6	8	8	9	3	3	0.2	2	3	5	4

	LV	VII	ICTOR	CRG	FCWU	CMM	PSONV	ABV	RCPCP	DE	NRCTE	NAI	SCEDS	SEP
SF2	-32	-19	-15	-31	-20	-17	-17	-03	-05	06	-15	-34	07	00
SF3	38	22	13	37	23	10	13	-09	-04	-01	01	17	-08	00
SF4	77	59	26	80	31	12	11	-00	-03	04	-06	25	-02	-03
SF5	22	17	09	14	39	39	34	-11	15	11	02	13	-02	-13
SF6	14	13	01	16	59	62	68	-31	20	33	11	04	-02	-17
SF7	-03	08	00	-08	12	22	21	06	89	05	73	04	07	04
SF8	11	09	13	28	91	93	80	-28	19	42	10	03	-02	-15
SF9	-04	04	-10	-09	-39	-42	-46	70	09	-48	11	16	05	02
SF10	23	20	16	38	43	36	31	-10	13	23	07	16	-02	-05
SF11	-06	-00	-05	09	26	20	16	-09	14	07	-08	-22	-00	-08
SF12	31	18	07	30	37	24	23	-11	07	02	-03	22	-06	-13
SF13	16	10	-04	15	31	30	22	-14	09	13	07	10	-03	-01
SF14	33	22	02	39	52	40	35	-06	11	10	07	28	-01	-06
SF15	03	01	-11	-01	-11	-14	-26	13	-03	-14	-09	-06	01	-02
SF16	-15	-16	-06	-12	-13	-25	-22	04	-13	-11	-05	-13	03	03
SF17	23	15	03	30	52	54	52	-22	25	24	10	14	00	-08
SF18	09	10	-01	18	53	69	67	-30	24	45	09	01	-02	-03
SFF1	14	15	10	35	48	39	33	-13	19	22	00	-01	-01	-09
Mean	20.4	7.96	7.33	22.2	28.58	23.67	28.4	10.56	8.03	6.02	5.78	10.71	23.79	19.52
SD	2.83	1.42	1.37	3.58	5.89	6.76	7.18	2.1	2.81	1.32	1.89	2.19	3.57	2.81
Alpha	0.78	0.62	0.4	0.79	0.88	0.87	0.87	0.25	0.72	-0.82	0.57	0.68	0.73	0.67
Nof item	5	2	2	6	8	8	9	3	3	0.2	2	3	5	4



	SPACWDL	FRAN	FSAN	JPP	OPSA	CL	EWC	OS	SJPP	SOPSA	SCL	SEWC	SOS	PNS
SPACWDL	1.00													
FRAN	29	1.00												
FSAN	21	34	1.00											
JPP	33	23	17	1.00										
OPSA	05	09	-03	05	1.00									
CL	15	-01	14	29	23	1.00								
EWC	17	15	16	36	08	30	1.00							
OS	28	09	03	34	06	22	32	1.00						
SJPP	-13	01	-02	-63	-05	-27	-21	-21	1.00					
SOPSA	-08	-02	-01	-05	-43	-04	-10	-08	22	1.00				
SCL	10	05	14	22	22	80	18	16	-00	15	1.00			
SEWC	-07	00	06	-22	-00	-25	-60	-18	32	20	-05	1.00		
SOS	-05	03	19	-10	06	-10	-19	-63	20	10	00	32	1.00	
PNS	19	11	06	18	-14	07	01	13	-09	-02	13	02	-07	1.00
GPO	28	29	27	15	03	02	23	17	02	-08	03	11	01	20
GMGOA	27	36	22	10	04	05	13	14	17	06	10	08	06	09
RE	10	14	22	06	10	14	15	04	-02	07	14	04	04	08
HWEG	27	32	26	16	05	13	18	16	-05	-02	09	02	02	13
EPGN	29	18	13	14	-12	01	05	14	01	10	04	06	03	-02
SPGN	17	18	06	07	-04	04	-00	09	-01	03	05	03	-04	04
PRE	24	28	12	08	12	-04	17	19	-02	-04	-01	01	-05	-05
EPWMEJ	19	24	15	15	03	-03	11	16	-01	-03	-04	06	04	-04
QA	28	18	15	20	03	06	10	18	-02	01	09	07	07	-01
SOC	12	13	10	16	-08	06	08	15	00	04	10	-01	-04	06
S	09	08	05	-03	05	04	06	00	10	04	07	04	06	05
GPAC	15	24	29	11	-02	03	21	13	-01	06	03	-02	-00	-07
GL	22	24	21	15	02	05	10	04	02	07	10	15	12	-02
HPG	40	32	20	26	04	08	13	29	-09	-01	10	03	01	06
IPRFLWA	-03	07	-12	08	13	-00	06	14	03	05	11	-03	-06	06
IPRFLA	00	06	-04	07	12	03	-09	04	07	07	06	08	-04	03
ITWG	32	26	16	18	-07	-02	08	15	-09	-03	-02	07	05	15
NR	10	03	06	-12	26	26	10	-00	20	07	27	01	05	-03
FO	17	21	17	-00	-01	04	-03	10	08	08	09	08	-00	10
GO	18	25	15	12	01	03	09	11	12	06	16	24	08	02
SF	16	23	24	04	-02	09	14	16	16	09	20	10	01	00
FB	15	36	15	00	07	-03	15	07	20	07	08	14	12	-10
GGC	18	38	20	08	-03	-01	14	04	16	10	13	18	06	04
QC	10	32	15	05	-06	-04	10	06	14	03	05	19	05	-02
MS	12	33	29	06	-11	08	10	00	14	06	02	19	09	04
TLS	17	32	14	19	-07	04	28	13	-02	07	05	11	-00	-00
NWN	02	-22	-11	03	23	13	-06	08	-03	04	13	-05	-10	13
WP	03	08	00	-05	12	15	01	-03	17	07	19	07	05	-09
TCWC	12	15	19	08	-07	01	16	13	06	00	08	01	-02	07
ERS	04	17	09	14	05	00	19	15	08	16	12	17	02	07
ILC	00	03	08	05	04	22	12	07	-02	09	20	-04	-01	11
ELC	20	14	06	23	08	15	15	18	-09	-01	12	-06	-13	13
Mean	42.55	17.61	7.21	7.89	6.1	7.17	7.5	7.96	8.89	9.41	23.42	9.27	9.33	7.83
SD	3.45	3.07	1.32	1.53	1.92	1.74	1.67	1.59	1.89	1.84	2.1	1.81	1.76	1.56
Alpha	0.65	0.78	0.44	0.61	0.67	0.72	0.7	0.65	0.4	0.55	0.73	0.49	0.51	0.68
Nof item	4	5	2	2	2	2	2	2	2	2	2	2	2	2

	SPACWDL	FRAN	FSAN	JPP	OPSA	CL	EWC	OS	SJPP	SOPSA	SCL	SEWC	SOS	PNS
SMLOC	10	08	15	10	09	20	03	06	-01	06	20	-01	-00	01
JA	07	18	07	-06	04	-04	-00	-03	22	08	04	14	05	-09
LOV	08	16	12	02	11	09	21	02	05	-00	16	04	11	-12
AI	11	14	15	-02	-02	04	15	12	21	07	15	15	00	01
PIM	-01	12	02	-06	07	09	01	-02	24	15	14	12	09	-08
Ab	01	-02	-11	14	-02	-02	15	04	-10	-01	-09	-12	02	03
PASCC	10	17	10	-05	18	17	02	06	10	03	17	12	-03	08
PI	12	22	14	03	02	09	11	13	16	05	15	14	-03	02
TB	04	20	20	07	-08	-06	08	09	14	12	06	24	10	-00
F	21	11	01	12	13	13	11	18	08	04	20	11	-00	03
B	14	21	13	22	00	07	22	13	-04	01	12	03	05	03
FIFPG	11	15	10	-04	16	02	08	-01	16	-00	06	05	06	-03
CATG	21	06	16	11	-03	05	20	04	00	06	04	06	01	-01
GS	06	10	09	05	-09	08	07	06	05	12	09	-02	00	04
PN	10	-13	-05	00	23	16	-04	05	-03	-11	11	-04	-08	06
CWS	10	06	-12	13	18	09	-03	13	-01	-00	14	04	-08	06
HW	10	13	07	08	07	02	14	-04	-00	-03	01	03	08	-09
JEGL	24	25	06	12	03	-03	15	16	03	06	02	11	-04	05
GR	15	26	14	02	09	-06	14	11	15	09	-04	09	08	-00
TIOAT	02	05	01	06	10	04	-00	04	01	08	02	06	-02	-07
GAR	13	15	10	-01	14	03	09	10	09	07	04	11	0	-10
GGA	12	22	14	13	05	02	16	13	05	-01	02	04	06	02
REENFR	14	15	09	11	09	09	21	10	-05	01	05	-02	-04	-05
MADR	28	19	15	23	-06	24	33	18	-13	-02	16	-17	-11	10
CVEFW	18	08	01	11	-14	03	12	15	-07	03	01	-06	-03	06
QSBFW	-01	-17	-07	-05	20	13	-03	02	10	-02	12	07	-01	-04
OC	27	11	03	12	-05	05	-01	12	-05	10	13	01	-004	12
EDC	12	34	16	07	01	-12	11	06	16	09	00	11	06	-00
IE	75	54	42	50	06	31	36	36	-27	-08	25	-17	-10	38
GE	27	34	20	16	04	00	18	14	06	08	05	14	09	02
OE	06	17	19	-08	02	03	-02	04	22	10	16	22	03	-02
SF1	-00	-14	-03	-02	20	26	07	08	-02	13	23	-07	-04	11
SF2	-37	-19	-13	-32	-09	-10	-26	-31	15	01	-10	10	13	-14
SF3	34	31	15	34	-01	07	15	22	-17	00	08	-00	-00	14
SF4	35	37	27	31	04	08	16	20	-21	-04	04	00	01	30
SF5	26	31	15	13	10	-04	17	21	-02	-04	-02	03	-03	-05
SF6	16	38	22	13	-08	-02	20	07	09	08	07	18	05	02
SF7	06	15	01	-03	06	-00	03	04	08	12	03	11	-01	-06
SF8	12	40	28	07	02	-07	15	12	22	06	03	27	13	-10
SF9	03	-19	-15	03	20	13	-02	05	-06	03	10	-09	-09	13
SF10	32	94	63	25	06	04	18	09	00	-01	09	02	09	11
SF11	-07	02	15	-20	03	-21	-49	-50	32	19	-03	82	81	-03
SF12	27	20	15	13	-07	05	07	13	-00	10	07	06	02	01
SF13	23	17	06	18	11	13	17	20	05	03	21	10	02	04
SF14	41	40	28	23	04	07	20	27	02	-01	10	08	03	14
Mean	42.55	17.61	7.21	7.89	6.1	7.17	7.5	7.96	8.89	9.41	23.42	9.27	9.33	7.83
SD	3.45	3.07	1.32	1.53	1.92	1.74	1.67	1.59	1.89	1.84	2.1	1.81	1.76	1.56
Alpha	0.65	0.78	0.44	0.61	0.67	0.72	0.7	0.65	0.4	0.55	0.73	0.49	0.51	0.68
Nof item	4	5	2	2	2	2	2	2	2	2	2	2	2	2

	SPACWDL	FRAN	FSAN	JPP	OPSA	CL	EWC	OS	SJPP	SOPSA	SCL	SEWC	SOS	PNS
SF15	03	01	-10	07	09	-00	-10	08	-04	-01	04	01	-02	10
SF16	-21	-19	-13	-17	-05	-16	-28	-15	09	00	-10	08	07	01
SF17	26	33	21	16	06	01	17	12	07	08	06	15	10	01
SF18	09	25	17	-00	03	04	10	09	24	13	15	21	06	-00
SFF1	20	73	57	07	07	-10	-16	-23	20	10	05	50	55	07
Mean	42.55	17.61	7.21	7.89	6.1	7.17	7.5	7.96	8.89	9.41	23.42	9.27	9.33	7.83
SD	3.45	3.07	1.32	1.53	1.92	1.74	1.67	1.59	1.89	1.84	2.1	1.81	1.76	1.56
Alpha	0.65	0.78	0.44	0.61	0.67	0.72	0.7	0.65	0.4	0.55	0.73	0.49	0.51	0.68
Nof item	4	5	2	2	2	2	2	2	2	2	2	2	2	2

	GPO	GMGOA	RE	HWEG	EPGN	SPGN	PRE	EPWMEJ	QA	SOC	S	GPAC	GL	HPG
GPO	1.00													
GMGOA	53	1.00												
RE	33	37	1.00											
HWEG	45	34	45	1.00										
EPGN	32	39	41	47	1.00									
SPGN	27	25	35	42	63	1.00								
PRE	21	24	25	29	49	32	1.00							
EPWMEJ	18	34	12	16	36	22	41	1.00						
QA	42	43	43	41	70	49	46	32	1.00					
SOC	09	09	01	09	04	04	-05	07	07	1.00				
S	04	15	05	-03	20	05	20	31	07	04	1.00			
GPAC	33	30	23	33	25	22	16	12	28	04	12	1.00		
GL	43	46	42	37	51	35	31	29	55	09	06	39	1.00	
HPG	38	42	36	41	59	41	38	38	53	16	14	23	50	1.00
IPRFLA	01	-01	-05	-10	-04	-07	-01	-02	-03	04	-09	-03	-01	02
ITWGL	04	08	01	-07	05	03	00	-04	09	-14	-07	-07	13	11
NR	21	19	24	28	37	36	30	12	33	11	13	21	27	39
FO	05	20	22	-01	07	-03	09	05	12	-08	21	10	21	08
GO	18	28	18	08	16	07	19	17	23	-02	19	09	23	16
SF	26	43	23	18	29	16	28	28	36	04	15	26	42	27
FB	17	38	26	12	28	16	32	26	38	-02	21	25	41	30
GGC	21	34	19	08	23	12	37	20	30	-06	22	23	39	25
QC	32	36	22	17	26	19	32	23	34	-04	20	26	46	30
MS	24	31	16	15	20	13	24	20	31	00	10	24	41	19
TLS	27	31	24	19	19	12	26	29	24	-04	14	21	39	23
NWN	28	32	27	30	32	25	29	18	33	-01	01	25	48	30
WP	-14	-17	01	-11	-21	-16	-21	-13	-14	-11	-03	-13	-20	-12
TCWC	03	18	14	-01	00	-04	-02	04	-04	01	02	12	14	-00
ERS	12	16	14	10	19	16	20	15	16	04	18	22	16	10
ILC	27	37	20	13	15	11	28	24	22	04	20	14	29	22
FLC	01	09	22	06	09	09	07	12	12	-03	13	08	11	07
SMLOC	12	10	19	01	23	17	14	12	23	-06	13	06	08	19
JA	03	06	18	12	18	12	10	09	20	-13	11	08	10	11
LOV	04	22	15	01	18	12	17	19	17	-14	20	14	19	07
AI	18	22	26	08	21	21	23	21	24	-10	20	19	32	22
PIM	18	23	04	05	13	06	21	21	14	06	15	27	31	09
Ab	08	30	17	08	19	12	17	14	23	-02	02	07	35	19
PASCC	-04	-09	-05	04	-05	-04	10	05	01	06	03	-05	-07	-00
PI	21	30	24	13	18	19	16	12	28	-05	09	06	39	20
TB	26	25	15	09	15	17	14	10	25	02	13	20	30	15
F	17	30	15	08	19	07	18	30	25	-01	17	25	37	18
B	07	25	07	-06	09	01	11	16	17	03	10	-04	23	21
FIFPG	23	23	12	19	20	12	20	16	27	16	03	10	29	28
CATG	08	20	11	12	10	09	18	16	12	-14	09	08	18	03
GS	24	26	26	26	32	16	16	10	31	-01	08	25	42	28
	-02	05	-02	02	-04	-05	-11	-09	-03	46	-06	04	00	02
Mean	6.98	7.02	10.45	11.39	32.6	10.55	17.06	6.45	21.42	20.61	8.74	6.81	30.24	10.48
SD	1.47	1.52	1.79	1.89	6.3	2.16	3.67	1.98	4.33	21.93	3	1.46	5.71	2.1
Alpha	0.64	0.71	0.62	0.67	0.89	0.68	0.76	0.78	0.79	0.13	0.75	0.7	0.86	0.65
Nof item	2	2	3	3	9	3	5	2	6	2	3	2	9	3

	GPO	GMGOA	RE	HWEG	EPGN	SPGN	PRE	EPWMEJ	QA	SOC	S	GPAC	GL	HPG
PN	-06	01	-09	-12	02	05	-00	-07	-06	-04	17	-08	-06	-05
CWS	-06	01	-09	-12	02	05	-00	03	01	-06	10	-16	04	09
HW	20	21	15	15	12	07	12	09	15	05	02	17	31	14
JEGL	27	26	15	18	31	17	29	25	37	02	20	28	38	29
GR	16	36	16	13	16	09	28	33	21	03	17	17	27	22
TIOAT	-11	04	03	-12	-07	-14	-13	04	-08	-08	13	08	13	-11
GAR	03	22	08	-00	10	-00	22	31	13	-02	24	20	30	16
GGA	24	37	30	24	28	23	23	24	32	-06	19	29	41	22
REENFR	08	18	13	12	15	01	25	28	13	00	20	14	22	20
MADR	17	18	19	30	26	17	20	18	20	12	11	13	24	30
CVEFW	13	04	06	07	28	12	12	11	19	10	17	19	05	22
QSBFW	-12	-07	-02	-14	-18	-20	-12	06	-07	-08	11	-15	-03	-14
OC	14	05	12	24	31	25	17	07	26	16	02	13	18	28
EDC	25	35	22	12	17	15	22	17	25	07	10	29	30	19
IE	42	36	24	36	31	25	25	23	31	19	08	25	26	45
GE	42	51	39	36	50	34	39	38	56	05	19	42	83	49
OE	17	31	16	05	18	11	10	15	18	-03	08	20	35	14
SF1	-08	-10	10	-06	-12	-13	-12	-11	-07	-09	13	-00	-03	-02
SF2	-21	-18	-18	-17	-23	-19	-17	-11	-20	-06	-08	-17	-21	-36
SF3	24	16	14	36	26	24	19	15	27	13	-05	16	22	41
SF4	41	24	32	38	30	29	18	20	32	19	-04	22	29	37
SF5	23	32	24	29	52	33	92	73	49	-02	28	17	36	44
SF6	32	37	26	25	29	21	32	25	35	-03	11	28	50	30
SF7	10	14	01	-04	03	04	09	11	09	-05	13	-01	16	06
SF8	37	48	26	21	30	21	35	37	38	02	17	25	45	3
SF9	-12	-17	-02	-07	-21	-12	-21	-12	-14	-11	-03	-17	-23	-1
SF10	33	37	19	36	19	17	27	25	20	15	09	30	27	3
SF11	07	08	05	02	05	-00	-02	06	08	-03	08	-02	17	02
SF12	36	42	59	53	96	77	48	34	71	04	17	28	54	60
SF13	15	29	11	03	15	06	17	19	24	09	09	01	30	27
SF14	76	79	44	50	57	40	36	39	59	15	14	35	59	82
SF15	-09	-13	-11	00	-05	-02	02	-02	-00	06	04	-15	-12	08
SF16	-13	-20	-17	-20	-21	-07	-27	-29	-18	-05	-20	-16	-26	-26
SF17	42	52	40	36	48	33	38	28	55	05	18	41	85	48
SF18	23	39	21	12	23	15	26	26	30	01	15	26	47	22
SFF1	30	33	17	29	18	13	19	23	20	09	11	22	31	26
Mean	6.98	7.02	10.45	11.39	32.6	10.55	17.06	6.45	21.42	20.61	8.74	6.81	30.24	10.48
SD	1.47	1.52	1.79	1.89	6.3	2.16	3.67	1.98	4.33	21.93	3	1.46	5.71	2.1
Alpha	0.64	0.71	0.62	0.67	0.89	0.68	0.76	0.78	0.79	0.13	0.75	0.7	0.86	0.65
Nof item	2	2	3	3	9	3	5	2	6	2	3	2	9	3

	IPRFWA	IPRFLA	ITWG	NR	FO	GO	SF	FB	GGC	QC	MS	TLS	NWN	WP
IPRFWA	1.00													
IPRFLA	35	1.00												
ITWG	-13	-00	1.00											
NR	15	15	-05	1.00										
FO	04	09	16	22	1.00									
GO	-01	09	25	18	41	1.00								
SF	-02	10	28	26	50	67	1.00							
FB	05	20	28	25	44	67	73	1.00						
GGC	-07	10	31	15	42	68	64	74	1.00					
QC	-06	06	24	06	32	69	65	72	74	1.00				
MS	-07	01	24	07	36	64	65	71	74	81	1.00			
TLS	-02	07	40	07	22	53	54	57	64	62	62	1.00		
NWN	11	12	-17	12	06	-34	-28	-39	-32	-43	-47	-36	1.00	
WP	04	07	-07	25	05	26	18	19	20	15	07	16	-01	1.00
TCWC	-13	-03	20	-06	13	36	36	33	32	37	34	22	-26	08
ERS	10	12	11	19	25	46	41	42	36	36	37	37	-26	16
ILC	07	10	09	17	-01	03	17	12	14	09	08	11	07	04
ELC	07	19	14	25	20	10	19	14	16	05	10	15	19	08
SMLOC	-06	17	16	25	11	10	23	23	21	14	14	11	07	05
JA	-06	07	-04	16	31	34	40	40	36	36	28	23	-02	16
LOV	04	17	23	29	14	37	34	45	45	40	32	40	-18	17
AI	03	03	09	12	27	54	49	47	45	53	46	38	-28	30
PIM	02	12	02	23	30	45	45	45	39	46	41	29	-15	17
Ab	09	-05	05	-06	-11	-09	-09	-08	-04	-13	-10	-04	08	-17
PASCC	-07	06	12	27	23	41	40	34	36	40	34	32	-10	18
PI	-04	06	11	10	21	45	39	42	42	47	40	36	-19	20
TB	-01	02	20	13	35	65	64	65	62	69	69	55	-35	18
F	27	32	07	22	19	29	33	31	24	18	14	24	05	24
B	14	06	17	07	14	35	34	30	30	32	34	40	-31	10
FIFPG	03	12	05	16	16	19	17	23	22	20	18	15	11	18
CATG	-06	-00	28	16	17	34	37	30	38	35	37	46	-12	09
GS	12	-07	08	-02	07	10	09	08	05	12	08	11	-20	10
PN	03	11	02	15	16	-07	-06	-09	-10	-12	-18	-21	49	05
CWS	28	30	-01	10	11	06	-02	05	06	-05	-02	04	23	09
HW	-09	-11	08	07	-02	22	24	21	21	33	22	27	-26	33
JEGL	07	01	28	13	23	41	43	42	46	41	38	42	-07	13
GR	03	05	16	21	23	37	42	44	35	29	40	33	-13	21
TIOAT	-01	11	-04	-10	14	11	09	09	06	05	04	04	22	24
GAR	-00	14	12	23	26	44	43	44	40	38	34	27	-08	30
GGA	-03	-02	18	11	30	35	37	43	38	37	36	40	-11	17
REENFR	07	10	00	25	24	31	24	31	26	23	23	24	-11	20
MADR	07	01	19	15	13	21	18	18	18	18	17	30	-14	08
CVEFW	03	-09	18	02	16	02	11	06	04	01	-05	02	00	-02
QSBFW	04	18	-08	13	03	01	01	-02	-02	-04	-06	-09	28	04
OC	-04	-06	25	-00	11	16	20	14	16	19	15	20	-11	09
EDC	07	08	15	00	25	45	39	43	41	48	43	45	-28	16
Mean	6.14	4.8	7.4	5.17	12.66	13.35	22.32	18.74	29.66	23.55	33.6	71.53	15.5	6.22
SD	2.22	1.35	1.45	1.9	3.21	3.59	5.09	4.69	6.7	5.98	8.12	13.95	5.3	1.73
Alpha	0.62	0.55	0.61	0.73	0.78	0.88	0.83	0.87	0.9	0.91	0.93	0.95	0.83	0.55
Nof item	3	2	2	2	4	4	7	6	9	7	10	20	6	2

	IPRFA	IPRFLA	ITWG	NR	FO	GO	SF	FB	GGC	QC	MS	TLS	NWN	WP
IE	02	02	37	12	19	24	24	19	28	17	21	29	-03	07
GE	02	07	33	23	33	53	55	56	57	51	51	57	-20	21
OE	-05	08	07	18	33	51	49	49	44	56	50	38	-27	29
SF1	10	19	-07	28	20	-12	00	-11	-08	-21	-21	-12	49	08
SF2	-10	-09	-26	-13	-16	-17	-12	-16	-16	-09	-10	-19	03	-10
SF3	06	-00	26	03	05	17	17	15	23	18	18	30	-19	-02
SF4	02	08	31	07	09	25	14	11	18	16	11	24	-08	07
SF5	-02	-01	27	09	22	33	35	37	34	27	32	30	-21	-00
SF6	-06	07	36	10	36	71	69	76	87	87	88	87	-45	16
SF7	-02	04	13	13	16	13	09	21	28	18	13	13	12	12
SF8	-02	09	25	11	31	60	60	64	58	65	64	49	-43	14
SF9	10	07	-17	12	02	-36	-34	-43	-34	-45	-51	-37	94	-02
SF10	01	04	27	04	23	26	27	35	39	31	38	31	-22	07
SF11	-05	02	08	03	05	20	07	16	15	15	17	07	-09	07
SF12	-06	05	41	08	17	30	30	23	28	21	22	35	-19	02
SF13	27	28	12	21	21	37	40	37	31	27	24	35	-08	23
SF14	01	10	35	13	25	40	36	33	41	30	33	38	-18	08
SF15	10	05	01	-01	-00	-14	-12	-09	-12	-18	-16	-23	18	-06
SF16	-08	-06	-07	-25	-24	-32	-25	-31	-27	-24	-24	-30	13	-19
SF17	01	09	31	24	33	54	55	56	57	51	52	58	-20	22
SF18	01	08	16	21	39	69	66	65	62	71	65	54	-32	28
SFF1	-02	04	25	05	20	31	25	36	38	33	39	28	-22	09
Mean	6.14	4.8	7.4	5.17	12.66	13.35	22.32	18.74	29.66	23.55	33.6	71.53	15.5	6.22
SD	2.22	1.35	1.45	1.9	3.21	3.59	5.09	4.69	6.7	5.98	8.12	13.95	5.3	1.73
Alpha	0.62	0.55	0.61	0.73	0.78	0.88	0.83	0.87	0.9	0.91	0.93	0.95	0.83	0.55
Nof item	3	2	2	2	4	4	7	6	9	7	10	20	6	2

	TCWC	ERS	ILC	ELC	SMLOC	JA	LOV	AI	PIM	Ab	PASSC	PI	TB	F
TCWC	1.00													
ERS	35	1.00												
ILC	08	06	1.00											
ELC	04	15	41	1.00										
SMLOC	01	08	58	56	1.00									
JA	12	13	17	22	28	1.00								
LOV	11	31	18	18	17	24	1.00							
AI	44	44	09	12	07	31	27	1.00						
PIM	18	32	13	17	22	37	19	37	1.00					
Ab	-13	-12	-00	-02	-06	-08	-07	-18	-13	1.00				
PASSC	17	24	21	13	21	29	27	43	40	-10	1.00			
PI	30	31	10	15	17	30	20	63	34	-12	39	1.00		
TB	40	45	06	11	13	33	45	58	44	-17	40	42	1.00	
F	11	32	11	25	13	14	24	21	19	-00	16	18	28	1.00
B	05	33	04	15	09	07	24	32	25	11	20	20	39	33
FIFPG	17	19	17	18	21	35	15	24	32	-13	18	15	16	16
CATG	14	27	08	16	13	16	27	23	24	-01	24	17	35	20
GS	11	11	-16	-16	-19	-09	-06	16	10	-05	00	07	14	-02
PN	-01	-16	01	07	04	05	-07	-05	01	01	03	-03	-17	08
CWS	00	15	-00	22	10	03	-02	03	06	-03	02	07	-05	53
HW	16	12	-02	-08	-05	09	13	27	15	-08	24	18	25	-05
JEGL	29	30	-03	14	02	22	25	39	21	-02	30	24	45	20
GR	16	33	05	08	05	17	21	34	30	-01	26	22	44	25
TIOAT	00	07	06	11	02	18	10	09	05	-05	08	12	11	17
GAR	25	41	02	10	07	20	31	51	30	-06	31	34	47	41
GGA	29	30	15	27	18	30	13	34	32	05	29	33	39	18
REENFR	16	27	07	20	18	24	26	29	23	03	28	18	29	24
MADR	16	17	13	21	17	08	13	13	12	01	17	14	18	19
CVEFW	15	-00	-02	10	06	05	-00	06	-05	-06	03	00	10	-01
QSBFW	02	-04	14	11	12	06	12	01	02	06	11	03	02	24
OC	17	05	-03	05	13	03	-02	10	10	-06	11	13	08	01
EDC	23	41	-04	07	-00	21	21	43	28	-08	24	38	50	16
IE	19	16	13	32	15	03	18	13	00	00	19	14	13	21
GE	30	41	10	18	12	29	33	46	40	-04	44	37	55	29
OE	36	42	08	12	15	33	31	66	52	-76	48	48	66	18
SF1	-09	-04	08	14	09	03	01	-10	-02	08	08	-07	-11	13
SF2	-11	-25	-05	-20	-06	08	-13	-14	-02	03	-08	-13	-14	-04
SF3	12	10	-03	02	02	-11	03	03	-00	11	04	08	15	12
SF4	17	13	-02	11	05	-02	09	11	-01	02	18	15	13	14
SF5	21	31	11	16	11	21	26	25	19	10	17	15	27	16
SF6	34	42	12	14	17	34	45	51	43	-08	40	45	72	24
SF7	09	19	-07	-02	02	12	12	14	19	02	18	20	19	09
SF8	32	48	07	13	15	37	38	55	42	-10	39	48	61	23
SF9	-29	-26	07	18	05	-02	-16	-30	-16	10	-14	-20	-42	00
SF10	18	17	05	14	12	17	18	17	11	-05	18	22	23	09
SF11	-00	11	-03	-12	-00	12	09	10	13	-06	06	06	21	07
Mean	6.88	8.95	11.8	8.59	23.36	5.6	5.97	12.02	11.66	24.93	9.59	5.86	13.18	12.52
SD	2.02	2.37	3.44	2.32	6.17	1.73	1.79	3.82	3.32	33.63	2.53	2.18	3.25	3.74
Alpha	0.66	0.64	0.86	0.73	0.89	0.53	0.63	0.83	0.77	0.55	0.72	0.82	0.84	0.81
Nof item	2	3	4	3	8	2	2	4	4	2	3	2	4	7



	TCWC	ERS	ILC	ELC	SMLOC	JA	LOV	AI	PIM	Ab	PASSC	PI	TB	F
SF12	20	18	13	25	20	19	26	12	20	-05	22	17	19	08
SF13	11	39	11	26	14	14	29	29	24	04	20	22	37	93
SF14	15	35	07	18	09	13	27	20	24	-05	29	26	27	23
SF15	-21	-05	-03	08	06	-07	-09	-14	-14	01	-13	-09	-17	16
SF16	-18	-28	-10	-23	-20	-22	-25	-28	-22	-03	-28	-20	-29	-26
SF17	28	41	11	17	13	29	33	46	42	-03	45	38	54	30
SF18	41	51	12	17	18	42	39	81	70	-19	66	60	81	28
SFF1	14	20	02	03	09	20	19	19	16	-08	17	21	30	11
Mean	6.88	8.95	11.8	8.59	23.36	5.6	5.97	12.02	11.66	24.93	9.59	5.86	13.18	12.52
SD	2.02	2.37	3.44	2.32	6.17	1.73	1.79	3.82	3.32	33.63	2.53	2.18	3.25	3.74
Alpha	0.66	0.64	0.86	0.73	0.89	0.53	0.63	0.83	0.77	0.55	0.72	0.82	0.84	0.81
Nof item	2	3	4	3	8	2	2	4	4	2	3	2	4	7

	B	FIFPG	CATG	GS	PN	CWS	HW	JEGL	GR	TIOAT	GAR	GGA	REENFR	MADR
B	1.00													
FIFPG	07	1.00												
CATG	27	40	1.00											
GS	27	-10	01	1.00										
PN	-13	18	-05	-03	1.00									
CWS	05	12	04	-11	21	1.00								
HW	18	06	16	20	-10	-36	1.00							
JEGL	30	21	36	10	04	10	26	1.00						
GR	34	30	26	15	-03	02	14	49	1.00					
TIOAT	-03	18	-01	-04	16	15	-02	12	18	1.00				
GAR	30	28	30	09	03	17	15	40	47	30	1.00			
GGA	25	21	28	02	01	09	20	36	27	14	24	1.00		
REENFR	18	26	25	-05	-04	10	08	30	30	15	38	24	1.00	
MADR	22	05	23	11	-10	00	20	22	08	-01	06	24	45	1.00
CVEFW	01	-10	03	14	-04	-02	09	24	02	-11	01	05	10	21
QSBFW	01	12	-03	-15	28	13	-08	-03	00	23	26	-04	04	-12
OC	18	-05	17	16	01	-01	20	32	08	-13	04	13	03	27
EDC	31	11	15	17	-10	00	13	34	33	09	33	40	15	07
IE	25	10	19	12	05	05	10	27	18	-03	08	18	20	35
GE	40	28	47	09	-04	07	34	74	62	17	46	64	35	29
OE	20	27	23	14	-06	03	24	32	31	11	40	28	21	12
SF1	-08	14	05	-06	39	16	-18	-05	04	22	14	-01	07	-12
SF2	-12	-01	-12	-10	04	-04	-08	-16	-12	-01	-14	-07	-14	-16
SF3	26	-09	11	14	-11	06	12	22	11	-03	04	19	17	27
SF4	26	-02	10	10	-09	05	12	26	15	-04	16	19	11	25
SF5	22	21	17	-12	-03	01	13	32	34	-09	30	28	31	23
SF6	40	21	46	11	-19	02	29	48	39	05	38	43	27	25
SF7	08	25	13	-03	20	13	06	22	21	13	19	10	14	05
SF8	37	19	29	12	-18	01	25	39	43	04	41	42	22	11
SF9	-30	12	-15	-18	46	21	-26	-09	-14	18	-12	-17	-10	-11
SF10	22	16	11	12	-13	01	13	22	26	05	16	23	16	21
SF11	05	07	04	-01	-07	-03	07	04	10	03	07	06	-04	-17
SF12	20	12	32	-05	-12	01	14	30	16	-08	09	32	14	27
SF13	66	16	27	09	01	45	03	28	33	12	45	24	26	24
SF14	31	12	33	02	-09	03	22	34	30	-08	18	34	20	29
SF15	12	01	-12	05	04	15	-17	-04	03	-03	13	-10	06	01
SF16	-22	-22	-28	00	06	-08	-14	-32	-27	-12	-32	-28	-95	-71
SF17	40	30	47	07	-03	08	33	68	62	19	46	66	34	28
SF18	40	29	34	16	-08	02	29	46	46	12	54	47	35	18
SFF1	20	16	11	08	-14	-01	14	20	26	05	16	21	10	05
Mean	9.92	10.8	6.7	24.06	5.16	6.67	15.46	10.02	8.64	4.58	9.5	9.38	12.04	7.1
SD	1.86	3.36	1.85	23.28	1.64	2.43	2.94	2.27	2.76	1.88	3.62	2.62	3.75	1.73
Alpha	0.58	0.77	0.68	0	0.65	0.81	-0.79	0.73	0.75	0.42	0.76	0.75	0.74	0.76
Nof item	3	4	2	2	2	5	3	3	3	2	4	3	4	2

appendix - E continued..

	CVEFW	QSBFW	OC	EDC	IE	GE	OE	SF1	SF2	SF3	SF4	SF5	SF6	SF7
CVEFW	1.00													
QSBFW	-17	1.00												
OC	29	-10	1.00											
EDC	-02	-13	04	1.00										
IE	20	-11	24	20	1.00									
GE	19	-07	27	45	33	1.00								
OE	07	-03	11	46	11	43	1.00							
SF1	-01	22	-06	-16	02	-02	-11	1.00						
SF2	-11	26	-10	-26	-45	-22	-13	-06	1.00					
SF3	12	-19	22	26	42	27	01	-17	-41	1.00				
SF4	17	-07	28	19	54	33	08	-10	-40	50	1.00			
SF5	14	-07	16	24	29	45	14	-14	-18	21	22	1.00		
SF6	00	-07	20	51	28	62	52	-17	-16	27	20	35	1.00	
SF7	07	12	03	08	06	23	13	10	-11	-03	-06	12	20	1.00
SF8	06	-04	10	46	22	57	51	-17	-20	18	23	42	66	19
SF9	00	27	-12	-31	-02	-23	-31	46	01	-18	-06	-21	-47	12
SF10	07	-16	10	33	59	34	21	-12	-21	31	40	31	39	13
SF11	-06	03	-02	11	-16	14	15	-06	14	-00	01	00	14	06
SF12	24	-19	31	20	33	52	19	-10	-25	28	35	50	31	03
SF13	-01	19	08	25	27	38	23	07	-08	20	21	21	35	10
SF14	18	-14	21	32	52	59	25	-07	-33	36	43	44	41	12
SF15	04	10	14	-13	-02	-09	-14	04	-03	12	05	01	-21	-07
SF16	-15	01	-12	-15	-28	-38	-21	-01	17	-23	-18	-33	-31	-12
SF17	10	-03	23	45	31	99	44	-02	-21	26	32	45	63	23
SF18	04	01	12	63	16	62	78	-09	-16	11	15	30	70	22
SFF1	02	-10	06	32	36	34	25	-13	-07	23	31	24	38	14
Mean	10.78	7.76	7.95	10.5	297.24	76.82	81.89	23.5	57.76	39.81	62.41	23.51	1909.78	13.81
SD	2.32	2.58	1.46	2.09	16.92	10.51	33.34	6.68	7.79	5.4	7.05	4.84	28.58	3.87
Alpha	0.64	0.73	0.45	0.69	0.69	0.5	-0.07	0.63	0.55	0.67	0.63	0.52	0.86	0.47
Nof item	3	3	2	3	28	6	6	3	3	3	4	2	4	2

appendix - E continues..

	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18	SFF1
SF8	1.00											
SF9	-.44	1.00										
SF10	.42	-.21	1.00									
SF11	.25	-.11	.06	1.00								
SF12	.32	-.19	.21	.05	1.00							
SF13	.33	-.12	.16	.07	.14	1.00						
SF14	.50	-.16	.43	.07	.60	.31	1.00					
SF15	-.13	.19	-.02	-.01	-.07	.18	-.04	1.00				
SF16	-.21	.12	-.19	.09	-.21	-.29	-.26	-.05	1.00			
SF17	.58	-.24	.34	.15	.51	.40	.60	-.10	-.37	1.00		
SF18	.67	-.36	.26	.17	.25	.38	.35	-.19	-.34	.63	1.00	
SFF1	.47	-.22	.80	.65	.19	.17	.37	-.02	-.10	.35	.30	1.00
Mean	52.25	17.9	24.82	18.6	53.6	22.44	24.48	55.92	19.15	58.27	55.84	43.42
SD	11.66	6.76	3.73	2.91	8.76	4.69	4.05	4.06	4.78	9.86	11.27	4.89
Alpha	0.82	0.49	0.4	0.48	0.57	0.42	0.69	0.53	0.51	0.62	0.76	0.13
Nofitem	2	2	2	2	3	2	3	2	2	4	5	2

### **Summary Description of the Thirteen Organizations in the Sample**

A short description of the organizations studied in the sample is given here to facilitate the understanding of the results of the study and to give rise to a perspective that might add to the interpretations and implications of the findings. Adhering to the ethical code of conduct of research in psychology, the exact identity including names and precise geographical location would not be mentioned. An effort would be made to provide the relevant information and this information may be treated as reflective of state of affairs at the time of data collection. The description follows.

#### **Organization No. 1 (O1)**

Organization no. 1 is a public sector organization. It could be treated as having high technological sophistication. It is engaged in aviation. It is located in a large city of Uttar Pradesh state of north India. This organization is one of the eleven factories located in six different states with head office as well as six of the factories located in a big city of Karnataka state of south-west India. The concerned organization was found in 1960 and thus has standing of about 37 years. It was set up for the licensed manufacture of HS-748, a transport aircraft. Ever since the organization has undertaken the manufacture of a number of trainers, gliders, and passenger aircraft. Besides, it also has been manufacturing some of the components of the aircraft. While the inputs are taken from Germany and England apart from the domestic suppliers, the consumers mainly have remained the domestic civil and military aviation operators. The organization professes to have basic objectives that include striving to achieve self-reliance in the design, development, and production of

aeronautical equipments and hence puts premium on research and development with special emphasis on meeting the defense requirements. The organization employs a total of about 3198 personnel out of which 1085 workers belong to production area, 1576 workers belong to maintenance and services, and 537 belong to the executive cadre. The general feeling prevailing among the employees is that there is an under utilization of workers' potential in that they could be more productive but can not be because there is not enough market for enhanced production. However, one may not be oblivious of the fact that considering the world trend with regard to the disbursement of strategic and defense equipments, the technologically advanced countries usually lend or sell rather obsolete technology only to the developing countries. and therefore, the non-availability of the consumers of the organization's products outside the country may well be because what the organization is manufacturing, is already out of demand in the open world market. In summary, this organization may be described as a public sector engineering organization making use of sophisticated technology and attempting to support the country's striving for self-sufficiency in aviation both for civil as well as for defense consumption. Since the main consumer as well as the supplier happens to be the government or the government supported agencies, the stability is assured but one may not be certain about the brightness of its future prospects.

#### Organization No. 2 (O2)

Organization no. 2 is a public sector organization under the ministry of civil supply, Government of India. It ranks low in terms of technological sophistication and the technology used is also an old one. It is engaged in manufacturing edible oil and breakfast food products. It is located in an industrial city of Uttar Pradesh of north India. it was established in 1935 with a different name and under different

proprietorship. In 1972 it was closed and in 1974 it was taken over by Government of India. In the year 1984 the organization was renamed, and continues to go with its new name. It employs approximately 358 employees. This organization has its other production units in capital city of India, and also in capital cities of Maharashtra state, Andhra-Pradesh state, Tamilnadu state, Karnataka state of south India and Punjab state of north India. The researcher got an opportunity to visit the production unit in capital city of India too. The organizational set-up both technological and behavioral, of both the units was quite similar, of course the production unit at capital city was found to be doing slight better in terms of financial position. The organization showed profit in the year 1990, and 1991 but since then it has been incurring losses. production has been stopped since July 1993 and it was declared a sick unit. This organization received a severe set back due to negligible allocation of edible oils by the central government. Additionally, the company has been subjected to unabated competition from the private manufacturers for its vanaspati (edible oil) due to delicensing of the industry, consumer preference turning to refined liquid edible oils and also an account of company's chronic quality problems attributable to old technology and obsolete machinery. An unrest was observed among the work force of organization. There was no job satisfaction among work force and rate of employee turnover was high. However, employees belonging to the unit of capital city of India seemed to be putting an effort for the survival of their organization. In summary, this organization could be treated as public sector chemical industry. It has low technological sophistication, machinery are old and obsolete. Role incumbents do not have job satisfaction. It has been declared a sick unit and unless some innovative measures are not taken by policy makers, the chances of its survival are dim.

### Organization no. 3 (O3)

Organization no. 3 is a public sector organization. It has high technological sophistication and is engaged in manufacturing pumps, compressors, and gas cylinders. It is located in a city of Uttar Pradesh state of north India. It was incorporated in 1970. The total number of employees is approximately 2500. This organization caters to the need of core sector of the economy such as oil exploration and exploitation, refineries, petro-chemicals, chemicals and fertilizers, process industries, nuclear and thermal power plants. It had in its earlier phase entered into technical collaboration with world renowned manufactures to indigenously design and manufacture pumps, compressors and high pressure gas cylinders and other hi-tech oil field equipments such as cementing units, sucker rod pumps etc.

In a very short span after its establishment, the company absorbed the technology and established itself as a world renowned manufacturer of a wide range of hi-tech products. Like many other import substitution oriented public sector undertakings, this organization also had to face various constraints because of long gestation period of profitability. By the time company could start showing results the growing international competition further marginalized its profitability. In order to meet the international competition effectively a group of six premier public sector engineering undertakings was formed in the year 1987. Though the group as a whole is a viable and strong engineering group, but this particular organization is incurring loss. The internal environment of the organization is in turbulent state. Investigator found that there was a serious labor management problem. When data was being collected, there was a call for strike and 'gharao' of the senior executives. Mutual trust and faith among the employees was lacking. A pessimism was observed among the employees



at all levels. Some of the senior executives reported that organization fell prey to faulty leadership practices and political interference. In summary, this organization may be described as a public sector mechanical industry, making use of highly sophisticated technology, but a sick unit at present. It may not be treated as an organization having bright prospects.

#### Organization no. 4 (O4)

Organization no. 4 is basically a cooperative sector organization. It has already been noted in the method chapter that although this organization was established in cooperative sector, it was clubbed together with the public sector organizations in this study on the basis of its current status in terms of share holding, working pattern, and the dominant coalition involved in policy planning matters. It could be treated as having high technological sophistication in relation to the other comparable organization (O7) in the sample, and as having high technological sophistication in general. It is mainly engaged in manufacturing of fertilizers for agricultural use. The organization was registered in November, 1967 and the unit from where the data were collected was commissioned in October 1980. It went into commercial production in March, 1981. The unit is located slightly away from a city in Uttar Pradesh state of north India at a distance of about 35 km. by road. The unit basically produces Ammonia and Urea. The unit employs approximately 1160 personnel. The organization has reasonably good government support and also has collaborations with reputed organizations from the USA and Italy. Despite a lot of glut of fertilizers in the country, the organization has been reportedly making profits to the tune of roughly 30 to 40 crores of rupees almost every year and workers have been getting productivity linked bonus at the rate of 25 to 30 per cent of their wages, although the market had not been particularly good for the last one year. The organization saw its strengths in

good and steady performance, sound financial status, and good work culture. The chief weaknesses enumerated were that there had not been much diversification until now, and the prices were being fixed by the government rather than on the market condition bases. The organization saw opportunities in terms of lots of scope that existed for diversification. The major threats perceived were lots of competition from new units coming up, and difficulties in marketing. In summary, this organization may be described as a cooperative sector fertilizers manufacturing organization making use of sophisticated technology and having a good status in terms of organizational effectiveness and health.

#### Organization no. 5 (O5)

Organization no. 5 is a public sector organization. It could be treated as having high technical sophistication and is located in a city of Uttar Pradesh state of north India. It is engaged in manufacturing diesel locomotive. It was established in August 1961 and made its first production in January 1964 and thus has a standing of about 35 years. The organization had about 8200 employees. This organization is primarily catering the needs of Indian railways. Apart from this, it also meets the demands of other public sector undertakings like steel plants, state electricity boards, national thermal power corporation and some developing nations too. It has a high production capacity but its total production capacity is not being fully utilized. Organization is over staffed, and employees lack motivation and job satisfaction. Government policies are not supportive enough for the growth of the organization. In summary, this organization may be described as a public sector mechanical industry making use of sophisticated technology and attempting to support the country's striving for self sufficiency in diesel locomotive. Being the main government

supported agencies, the stability is assured but one may not be certain about the brightness of its future prospects.

#### Organization no. 6 (O6)

Organization no. 6 is a private sector organization. It could be treated as having high technological sophistication. It was incorporated in 1961. It is located in a city of Uttar Pradesh state of north India. It has work force of approximately 3500 workers and officers. (The company has three engineering units, and three sugar manufacturing plant. It also has two subsidiary companies). It is a manufacturer of steam turbines, turbo alternators, hydraulic equipment, filtration and clarification equipment, high speed precision gears, positive displacement pumps, mineral ore beneficiation equipment and white crystal sugar. The organization has developed strong links with major international organizations world wide. The organization has a reasonably good sales and profit record. It has been recognized as an export house by the Government of India, and has been awarded the Indian merchant's chamber award for outstanding export performance a decade before. The company has recently diversified into new fields such as pipe laying, oil field equipment and services, and pollution control. The work force, by and large, appeared to be satisfied on accounts of job satisfaction and leadership, although job security was not very high. In summary, this organization may be described as a private sector mechanical industry which has done well compared to its competitors. The organization is growing very fast.

#### Organization no. 7 (O7)

Organization no. 7 is a private sector organization. It would be treated as having high technological sophistication. It is located in a city of Uttar Pradesh state of the north India. It has collaboration with France and U.K. It was founded in 1911 and its

product range includes a wide range of agricultural, domestic and industrial electrical equipments. Its products in broad categories are transformers and switchgear, furnaces and air pollution control equipment, motors and pumps, domestic and industrial fans and meters. Keeping pace with the latest changes in technology, this company is making investments in manufacturing and allied facilities for modernization and technological upgradation with a view to enhance its product range to higher ratings of power and furnace transformers. This company dominates the supply of transformers in Indian market, it has various foreign customers too. The organization had a reasonably good sales and profit record, until 1992. At the time of data collection the researcher found that management was facing problems with the lower strata of work force. More recently, the organization has not shown good results, as it used to be. In short, this organization may be described as private sector mechanical industry, making use of sophisticated technology and having a below average status in terms of organizational effectiveness due to problems between labor and management.

#### Organization no. 8 (O8)

Organization no. 8 is a private sector organization. It could be treated as having a high technological sophistication. It is engaged in textile (synthetic yarn) manufacturing, and is located in a city of Uttar Pradesh state of north India. It was incorporated in 1986. It employs a total of approximately 110 employees. It was established with the objective of manufacturing Polyester Filament Yarn (PFY) with an annual capacity of 15000 tonnes.. The company basically manufactures following types of polyester Filament yarns - (a) Partially Oriented Yarn, (b) Flat yarn made on Draw Twisters, (c) Dyed Yarn in various color combination, (d) Twisted Yarn in Dyed and Gray. Besides manufacturing PFY, this organization also envisages to

manufacture speciality yarns like - High count, Trilobal, Thick & Thin, Cationic Dyeable, Bishrinkage, & Yox for the first time in India. It has technical collaboration with Japan.

With in a short time, it has established its name in the filament Textile Industry. Its yarn is able to run at high speed on further processing machines like Draw Texturising and Draw Twisting etc. Its POY has been observed to be running at around 800 mtrs. per minute which is possible with only few other manufacturers of repute. Not only the technical aspects, the management aspect of company also seemed to function well. The marked emphasis on team spirit and holistic concern was reflected in the total cross-section of the organization. The company is doing business successfully. In short this is a private sector textile manufacturing organization established recently. The manufacturing plant has highly level of technical sophistication. It has made an outstanding growth compared to its competitors. The future of this organization is bright.

#### Organization no. 9 (O9)

Organization no. 9 is a private sector organization. It could be treated as having a high technological sophistication and is engaged in cement manufacturing. The organization was formed in 1936, and its first engineering workshop was established in 1942. The unit from which data was collected, is located in a city of Karnataka state. This unit enjoys the place of being India's largest cement complex. In 1982 India's first one million-tonne-per annum kiln was lighted up in this unit, increasing its capacity up to 1.6 million tonnes per annum. The unit employs approximately 13,000 personnel. This organization has technical collaboration various foreign firms. The organization has been reportedly making profits almost every year. It has won several national and international award for productivity and excellence. It is the largest exporter of cement and other products related to cement and also has

various plants overseas. The organization is making a good and steady progress, it has sound financial status and a nice work culture. Employees were hard working and target oriented. They expressed good faith in this management and were satisfied with their job. In summary, this organization may be described as a private sector chemical industry which has done well compared to its competitors. It is a technological leader in its field of operation, and enjoys a good status in terms of organizational effectiveness.

#### Organization no. 10 (O10)

Organization no. 10 is a private sector organization. It could be treated as having a high technological sophistication. It is engaged in manufacturing Soya oil, and feeds for animals. It is located in a small remote town of Uttar Pradesh state of north India. Before 1992, ownership of the organization changed resulting in changes in policies of the organization. Technically the plant is most modern but it has not been able to show good results. The company recorded a fall of 25% in its turnover in 1992 in view of the poor utilization in the oil extraction plant and edible oil refinery due to non-availability of oilseeds at economic levels and shortage of working capital funds. Unremunerative levels of oil market in the country is also an important reason for its unsatisfactory performance. However, at the time of data collection (1994) investigator found that the company was no more a sick unit, as efforts were made to increase the plant capacity utilization and there was injection of additional funds for working capital alongwith other measures to improve the profitability of the company. The work force of this organization is very small, it has approximately 250 employees. Role incumbents reported dissatisfaction with the change of policies. Nevertheless, employees seemed to be self motivated and optimistic for the progress of their organization. In summary, this organization could be treated as private sector

chemical industry, which could not make much profit due to poor financial position and location in remote dry region. Measures have been taken to improve the condition of the organization, but still the future could be predicted as uncertain.

#### Organization no. 11 (O11)

Organization no. 11 is a public sector organization. It could be treated as having a high technological sophistication. It is an engineering product organization engaged in manufacturing automobiles. It is located in a city of Haryana state of north India. It was incorporated on 24th February, 1981 and in year 1982, it started as a joint venture with an automobile company from Japan. This foreign company holds 50% of the equity share in the company. It is a first public sector company to become non government, that is, it is a board managed company. It commenced production in December, 1983 and there was no cost or time over run. While project report envisaged losses during the first four years, this organization made profits right from the very first year of the production and the production has been increasing since then. It has market in India as well as in many other foreign nations too. It employs approximately 4148 employees. It has a distinct work culture, based on acknowledgment of the dignity and worth of each individual, the elimination of notions of "inferior" and "superior" and the opening of communication channels not only from the downwards but in reverse direction too. "We" feeling dominates among employees. The team work, participative working and good communication among employees are the main characteristics of the work culture. Employees are concerned towards the quality, productivity and cost reduction. In summary, it could be said that it is a public sector mechanical industry which is growing fast. It has a harmonious work culture and is able to compete well with its competitors. The future of this organization is bright.

### Organization no. 12 (O12)

Organization no. 12 is a private sector organization. It could be treated as having a high technological sophistication. It is an engineering product organization engaged in manufacturing two-wheeler automobiles (motor cycle) and tractors. It is located in an industrial city of Haryana state of north India. It was established in 1944, thus the organization has the standing of five-decade. It is India's 7th largest engineering company with the work force of approximately 17000 employees. The plant and the machinery at the time of the installment, were proclaimed to be the excellent and it was known to be one of the trend setters in India's new industrial culture. Over the years it collaborated with many other foreign companies. In spite of its huge set-up and high technology, this organization is not able to compete well with its present competitors. It was only in year 1990 when company made the largest profit. The technology was reported to be old and cost of the product is high. Researcher received mutually contradictory statements from the role incumbents. Few of them reported that there was no professionalism, no maintenance and no quality concern. Others reported that the senior executives take care of peoples and work, powers are decentralized hence communication is slow, leaders practice autocratic style of leadership, and the chief is very professional. All that could be said, that it is a private sector mechanical industry which is not in a very good condition but still doing better compared to several other industries. It functions more like a public sector organization. It needs motivated and committed work force and enlightened and visionary leadership to regain its lost apex position among all automobile manufacturers.



Organization no. 13 (O13)

Organization no. 13 is a public sector organization. It could be treated as having low technological sophistication and is engaged in textile manufacturing. It is located in a big industrial city of Uttar Pradesh state. It was established in June, 1920. It was installed with a spinning capacity of 38,400 spindles, weaving capacity of 604 looms, and processing capacity of 48,00 Mts./day. The organization was in good condition in mid sixties and in seventies. At present the rate of producing yarn and cloth has been reduced and organization is incurring losses for 10 consecutive years. It employs approximately 2,230 employees. Both the work environment and financial condition of the organization is in very bad shape. A feeling of unrest prevailed among workers, management labor relations were not harmonious. The organization has incurred a loss of Rs. 46 crore upto year 1995. In short, this organization could be described as public sector, textile organization with low technological sophistication. At present the organization is in a very bad shape and future of the organization is very dim. It did not fair well on the scale of organizational effectiveness.

## ABSTRACT

Name : Manjari Srivastava

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This study was conducted in an exploratory framework and focused on the constructs of individual, work group and organizational effectiveness. A number of other relevant variables contributing to all the three levels of effectiveness were also explored in work organizational setting. All of these variables belonged to seven major sectors, namely individual characteristics related variables, contingency variables at individual level, individual effectiveness related variables, group characteristics related variables, contingency variables at group level, group effectiveness related variables, and organizational effectiveness related variables. The main research issues were to uncover the underlying dimensions of effectiveness at the three levels, to relate those dimensions with one another according to a conceptual scheme, and to explore the pattern of relationships of variables at individual, work group and organizational levels. The sample included 250 middle level managers from seven public and six private sector work organizations in India. Data were collected through structured interview schedule and were analyzed using univariate and multivariate statistical techniques. Results suggested that the construct

of individual and work group effectiveness could be important in organizational dynamics. A host of other variables were identified that would have important ramifications at individual, group, and organizational levels. Some structural variables, like ownership and industrial categorization also appeared as important variables. The findings from the study seems to have made significant contribution to the understanding of the construct of effectiveness in particular and of the organizational dynamics in general. Some of the implications of the study could be (a) that there is a need to realize the importance of understanding the construct of effectiveness not only as a whole but in terms of three separate, though mutually related, subcategories, namely individual, group, and organizational effectiveness, (b) since the study could specify the nature of precise relationships among the dimensions of the variables in a rather comprehensive manner, the knowledge of these relationships may be utilized, by the dominant coalition of the organizations comparable to those in study, in order to enhance quality of decisions regarding personnel management or may be regarding the totality of organizational dynamics itself; and (c) the future academic endeavors might make use of the present study as a stepping stone for further exploratory and confirmatory research toward a more complete understanding of organizational dynamics.

